RUSS OLSON VOLUME 19C

BADGER TRACTION

Central Electric Railfans Association

Description

Badger Traction section on the Duluth Street Ry; Early Financial Reports; and St. Louis Co. Historical Society Inventory of DSR Records

Sub-divisions Within This Volume

- CERA Badger Traction with financial reports
- Catalog of DSR Materials at the SLCHS

CERA BADGER TRACTION

Duluth-Superior

THE CITIES of Superior, Wisconsin, and Duluth, Minnesota, at the western end of Lake Superior, form a metropolitan area known as the Twin Ports. The terrain of Superior is flat, while Duluth is hilly, and both cities are characterized by long distances and low population densities within city limits. These factors have played significant roles in the history of Twin Ports public transportation.

SUPERIOR

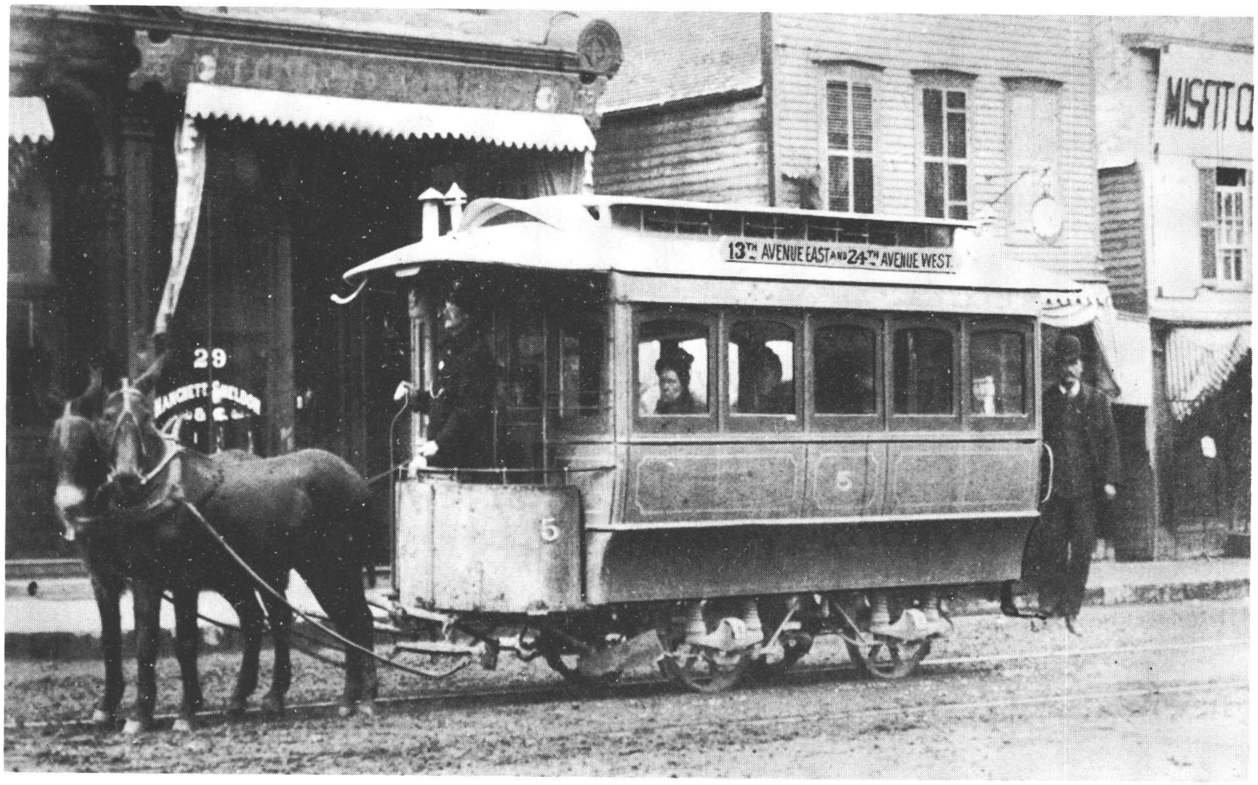
The first franchise for a street railway in Superior was granted in March 1884 to the Douglas County Street Railway for a horsecar line. Actual construction was not started until the spring of 1887, with the first operation on August 22, 1887. This was a narrow-gauge, single-track line in what became known later as the East End district of Superior. No attempt was made to furnish a scheduled service; instead, one daily trip was made with hired passengers to demonstrate compliance with the terms of the charter.

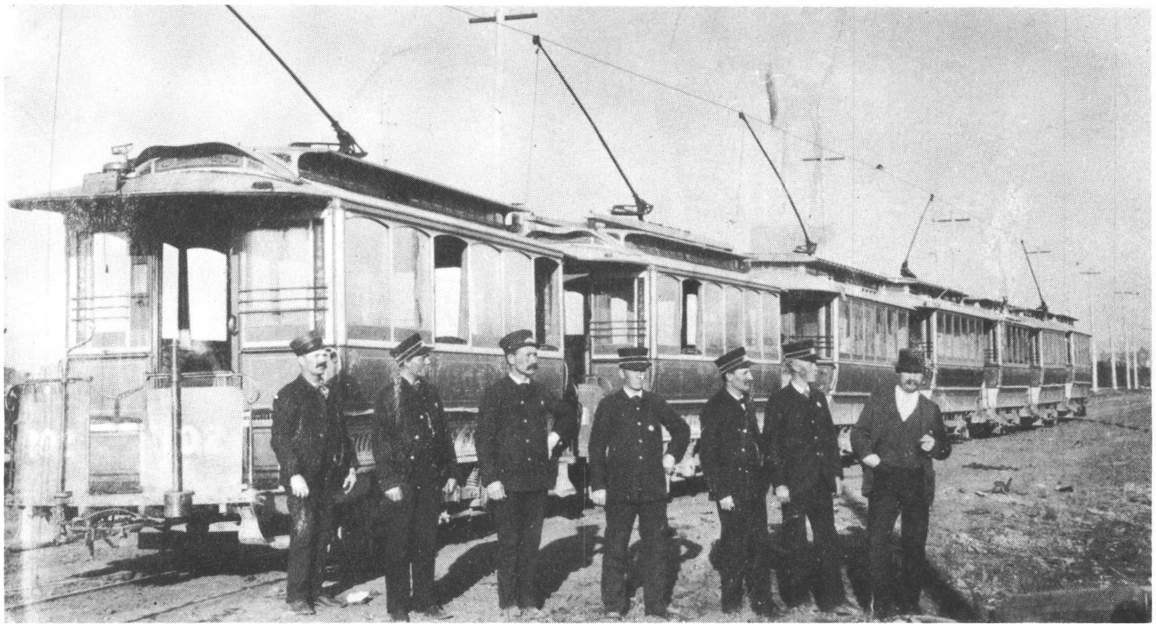
A new ordinance was granted by the City Council in July 1889, which required construction of about five miles of additional track before the end of that year. Narrow-gauge, single-track lines were constructed on East 5th Street, L Avenue (6th Avenue East), East 7th Street, and Belknap Street to Tower Avenue; and on Tower Avenue from North 3rd to North 21st Street. Scheduled operation began on December 23, 1889, using four horsecars.

In March 1890, the Douglas County Street Railway increased its capital stock from the initial $20,000 to $50,000, opening the way for electrification. Wires were strung over the horsecar tracks, and electric cars began operating July 1, 1890.

Additional lines and extensions were built in the 1890-92 period. These were 21st Street to Billings Park, Tower Avenue to South Superior, North 6th Street, Lambourn Avenue (later Grand Avenue) and Main Street to Connor's Point, 3rd Street from Tower Avenue to Lambourn Avenue, and two routes which were abandoned at an

Horsecar at 1st Avenue West and Superior Street in Duluth in 1889. The car may have been second-hand when it arrived in Duluth in 1889. Wayne Olsen.





Cars of the new Douglas County Street Railway line up at Belknap Street and Catlin Avenue in Superior in 1890. The crews look ready to go to work, but the "super" doesn't seem quite sure of the photographer's intentions. Wayne Olsen.

early date: From Catlin Avenue and Belknap Street, along Catlin Avenue and Broadway to Tower Avenue; and a branch of the South Superior line on 61st Street east from Tower Avenue. Except for these last two routes, they were built as double-track, narrow-gauge lines.

During 1892, a reorganization took place from which the emerging company was the Superior Rapid Transit Railway Company. Financial problems arose which resulted in receivership in January 1896; the Receivers operated the line until it was absorbed by the Duluth Street Railway in August 1900.

Prior to the completion of the Interstate Bridge, there was no direct link between Superior and Duluth other than the Northern Pacific Railway bridge, over which commuter trains were operated in addition to main line train service. The street railways in both Superior and Duluth were interested in competing for this traffic. In 1892 Superior streetcars began to operate to Connor's Point, and Duluth Street Railway began operating on Garfield Avenue to Rice's Point. The Duluth Street Railway started a ferry service between Rice's Point and Connor's Point in 1893.

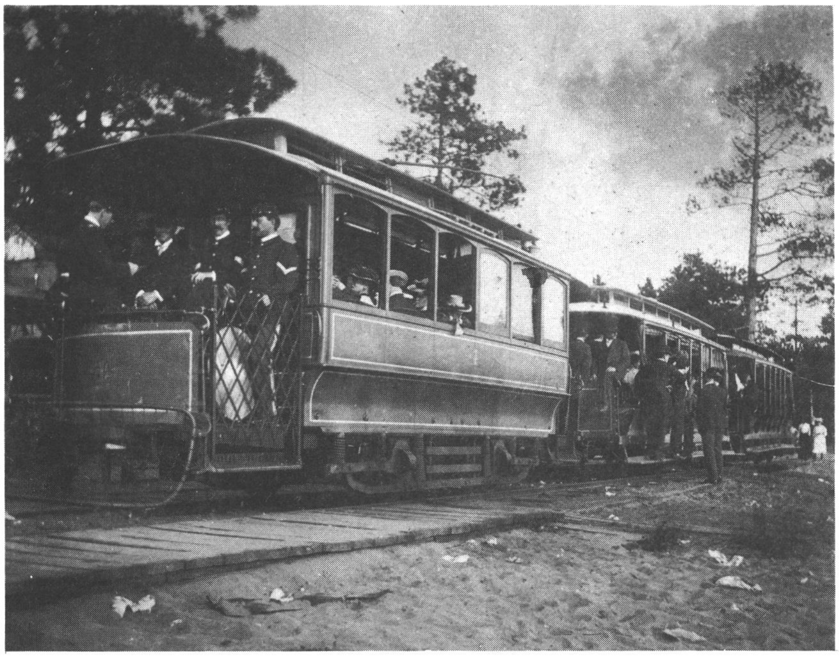
When ice halted ferry operations during the winter of 1893-1894, a barge was towed over the ice to transfer passengers. When the following winter season set in, Superior Rapid Transit constructed a temporary trestle over the ice, permitting Connor's Point cars to operate to Rice's Point for direct transfer to the Duluth cars. This winter operation continued until 1897 when the Interstate Bridge was opened.

Since the bridge was built with standard gauge tracks, the Duluth Street Railway cars operated over it. Passengers transferred to the narrow gauge Superior cars at Connor's Point. By 1899, Superior Rapid Transit had widened the track from Connor's Point to Tower Avenue and 21st Street permitting a joint through service by cars of both companies between Superior and Duluth.

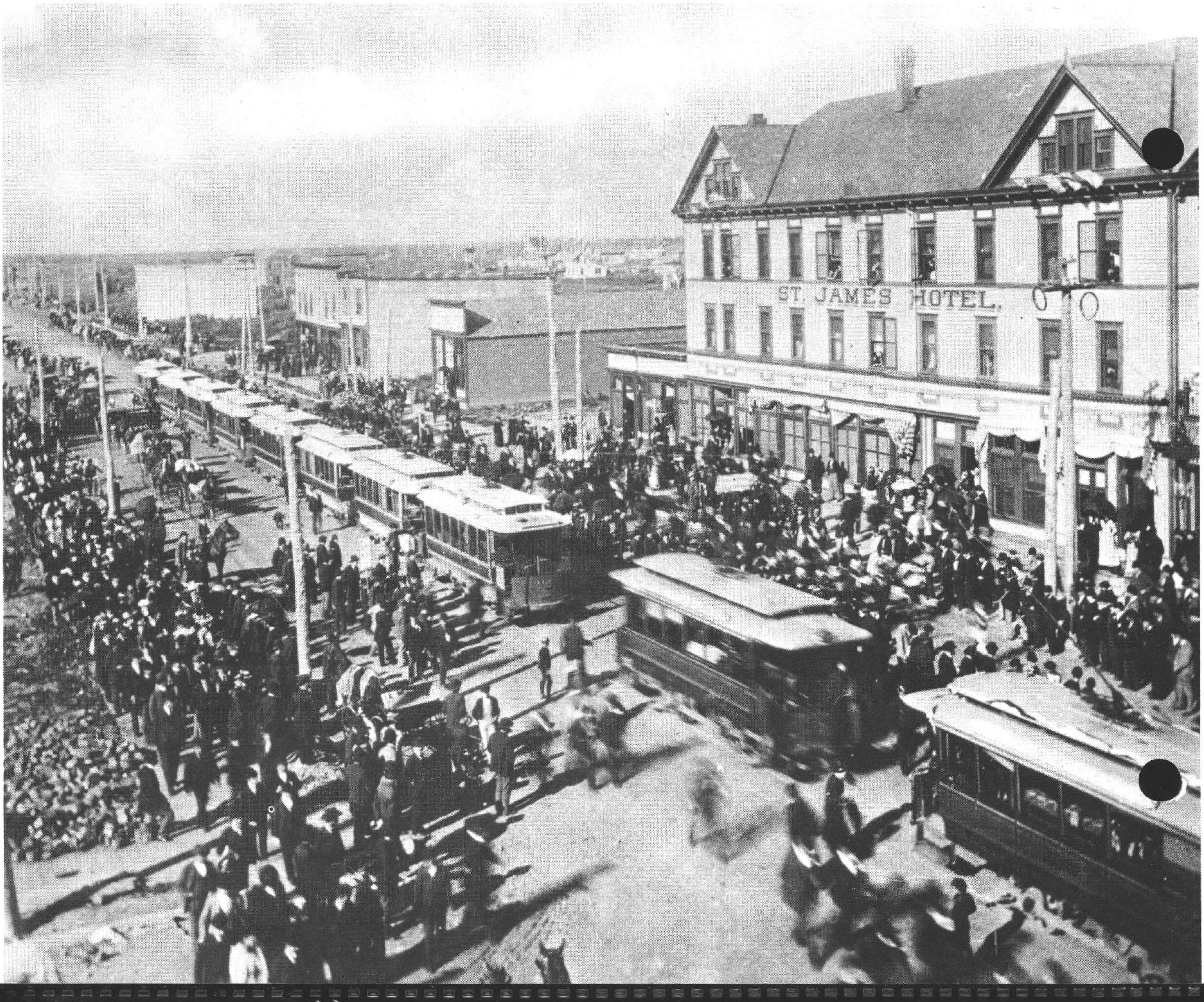
At the time of being absorbed by the Duluth-Superior Traction Company in 1900, there were 26.0 miles of track in Superior. As a result of a study by the engineering firm of Ford, Bacon and Davis, track was found to be deteriorated and some was abandoned. Some double-track sections were reduced to single track.

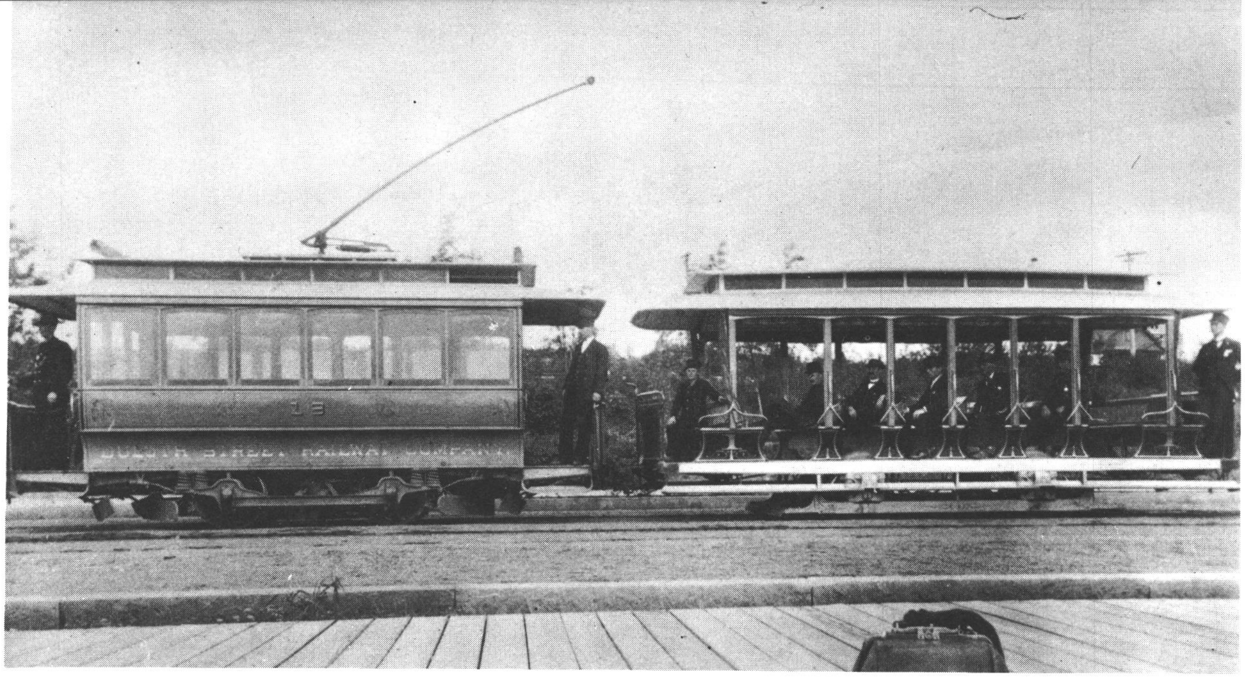
Lines abandoned:
Broadway-Catlin
61st Street branch of South Superior Line
Lines reduced to single track:
South Superior (Tower Avenue) south of Belknap Street
21st Street (Billings Park) west of New York Avenue
entire 6th Street Loop.

After these changes were made, the track mileage in Superior was 21.55 miles. Several portions reduced to single track were again double-tracked in later years. During this period of rehabilita-



LEFT: **Car 4 and two open cars of the Interstate Traction Co., as the Park Point Line was known in the early days.** BELOW: **The celebration of the opening of the South Superior Line on September 14, 1892.** Wayne Olsen.





No. 19 and a trailer in Duluth. Built by Laclede in 1890, No. 19 was the first electric car in Duluth, and was later sold to the Grand Forks (Minn.) Transit Co. The trailer was built by Brownell in 1891. The trailers were sold to Park Point about 1902, and one of them was rebuilt into the fire car. Wayne Olsen.

tion, the balance of the Superior lines were converted from narrow gauge to standard gauge.

Additional track built in Superior consisted of an extension of the East End line to Allouez in 1907, construction of another Broadway Line, on Broadway, Winter Street and Hill Avenue in 1917, and construction of a line on 21st Street from Tower Avenue to Grand Avenue in 1921. In 1928 the Allouez Line beyond East 4th Street and 31st Street Avenue East was relocated from the condemned East 4th Street trestle to a new routing on East 2nd Street. Track mileage in Superior reached a maximum of 28.80 miles in 1929.

DULUTH

The Duluth Street Railway was incorporated in 1881, and began its long span of operation on narrow gauge tracks on Superior Street between 3rd Avenue East and 8th Avenue West in 1882, using mulecars. Conversion to electric operation took place in 1890 and at the same time the track gauge was changed to standard. This was followed by an expansion from four miles of track to 29 miles by 1892. The Depression of 1893 was responsible for a 50% drop in revenue, and when the company attempted to lower wages the employees went on strike. The strike was followed by a change in general managers, with Herbert Warren, formerly of the street railways in Minneapolis and St. Paul, becoming the new general manager. He remained with the Company until 1938. Thomas Lowry, better known as the builder of the Twin City Rapid Transit Company, became interested in the Duluth Street Railway at this time.

During the 1890's, three groups built streetcar lines to serve outlying areas and encourage real estate development. All contracted with the Duluth Street Railway to operate their lines. The first was the Motor Line Improvement Company which built an extension of the East 4th Street Line from 14th Avenue East to Woodland Avenue and Austin Street. The next was the isolated Highland Avenue streetcar line from the top of the incline to Duluth Heights. This was built by the Highland Improvement Company in conjunction with the 7th Avenue West Incline. The third was the Lakeside Street Railway built by the Lakeside Land Company on Superior Street from 22nd to 61st Avenues East. The Lakeside streetcars took so much business away from the commuter trains of the Duluth & Iron Range Railway that the service was discontinued.

The Duluth Street Railway Company suffered financial difficulties in 1898 and went into receivership. In 1900 the Duluth-Superior Traction Company was formed as a holding company to acquire and operate the street railways of both cities as one system. The Duluth Street Railway emerged as the operating unit of the Duluth-Superior Traction Company. The three land-company lines were acquired at about this time also.

After the reorganization in 1900, several track extensions and new routes were built. Track building continued into the 1920's, with the 21st Street Line in Superior from Tower Avenue to Grand Avenue being built in 1921, the East 8th Street extension to Kent Road being built in 1923, followed by an extension of the Kenwood Line to St. Marie Street in 1924. The final rail extension was the Crossley Line in 1926 from Superior Street and 45th Avenue East. After 1926 there were several new track construction projects covering double tracking, new loops, and route relocations. The maximum single track mileage was reached in 1929 with a total of 113.64 miles, of which 28.80 were in Superior and 84.84 in Duluth. The peak year for traffic was 1919 when over 45,000,000 fares were collected.

Several interurban lines were promoted: to Minneapolis-St. Paul; to the Mesabi Iron Range towns; and to Port Arthur in Ontario. None passed the planning stage. However, plans for the line to the Twin Cities did reach the point where detailed drawings were prepared for deck-roof, double-end cars to be built at the Fort Snelling shops in St. Paul. The cars would have been similar in appearance to the standard Twin City Rapid Transit cars. The route would probably have been made by electrification of the Soo Line Railroad tracks since Thomas Lowry was also interested in the steam road as well as the street railways.

PARK POINT

Park Point, also known as Minnesota Point, is a sandbar in Lake Superior at the entrance to Duluth Harbor. It is about nine miles long and averages only about 500 feet in width. Because of its natural assets, it developed into a resort area quite early. The building of a road on Park Point was difficult because of shifting sands, so a rail line was chosen for public transportation. The Minnesota Point Street Railway was incorporated in 1887, and by 1893 had built 3¾ miles of line from the ship canal at the Duluth end. It used cars and horses which had been rendered surplus by the electrification of the Duluth Street Railway.

Light traffic outside the three summer months created financial problems and the line was sold at public auction in 1898. It became known as the Interstate Traction Company, although it never crossed any state lines.

During 1899 the track was standard gauged and the line electrified. To attract more patronage, tracts of land were cleared and improved to attract home builders. A dance pavilion and an amusement park were built at the outer end of the line. Traffic increased and several open cars and trailers were purchased second hand from the Duluth Street Railway. Four double-truck closed cars were purchased new for the line, two in 1905 from the St. Louis Car Company and two in 1911 from the Danville Car Company.

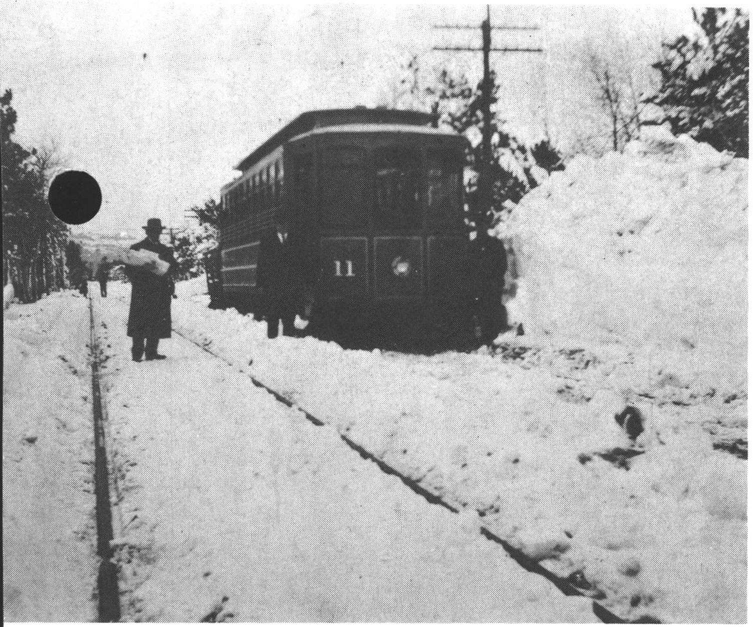
A freight hauling service was also provided. Since there were no improved streets, residents received coal, wood, furniture, etc. by 4-wheeled flat cars pulled by passenger cars. These cars would be spotted in front of the house to which the shipment was consigned. It was the residents' duty to unload the merchandise quickly so that the returning street car could push the flat car back to the barn.

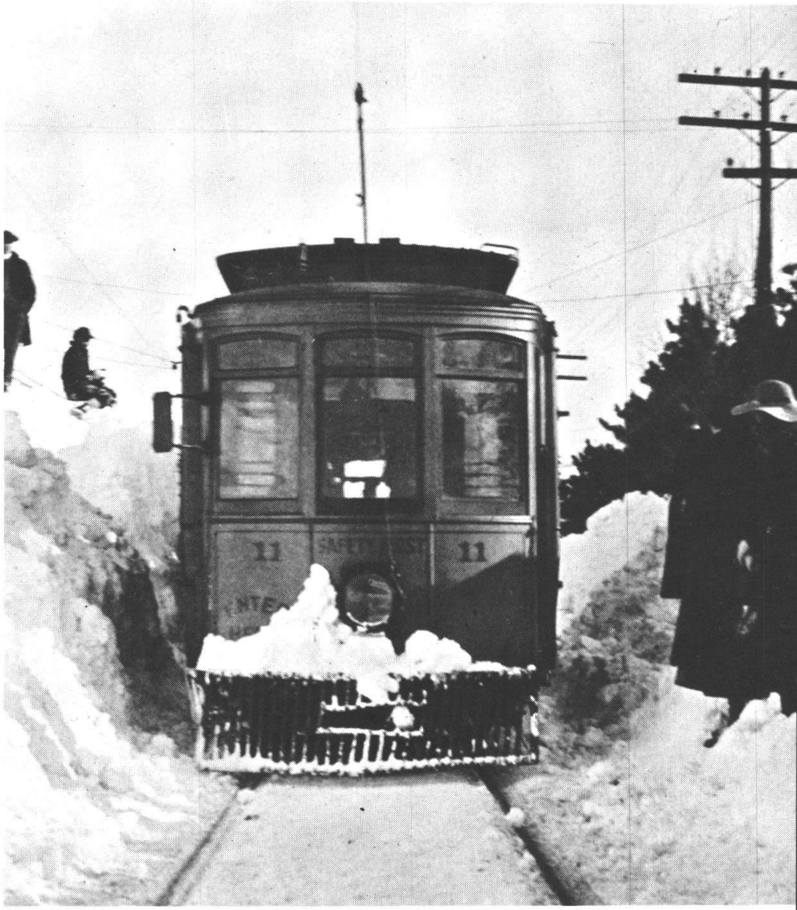
The line still did not have sufficient business to remain solvent. A reorganization took place in 1913, with the name being changed to Park Point Traction Company. Conditions became worse after Minnesota Avenue was paved with concrete and trucks and autos competed for the meager passenger and freight business on which the line had subsisted. A heavy snowfall in March 1917 practically buried the equipment. The Duluth Street Railway took over operation of the Park Point line on July 1, 1917 with complete consolidation taking place on September 1, 1917.

Freight operations were discontinued at once. The Duluth Street Railway rehabilitated the line, scrapping all single-truck cars which were not converted to work cars. Service was provided by the four double-truck cars and three new Birneys purchased in 1919. During some summers, two 150-series cars were ferried across to Park Point and operated back-to-back as a two-car train for heavy beach traffic.

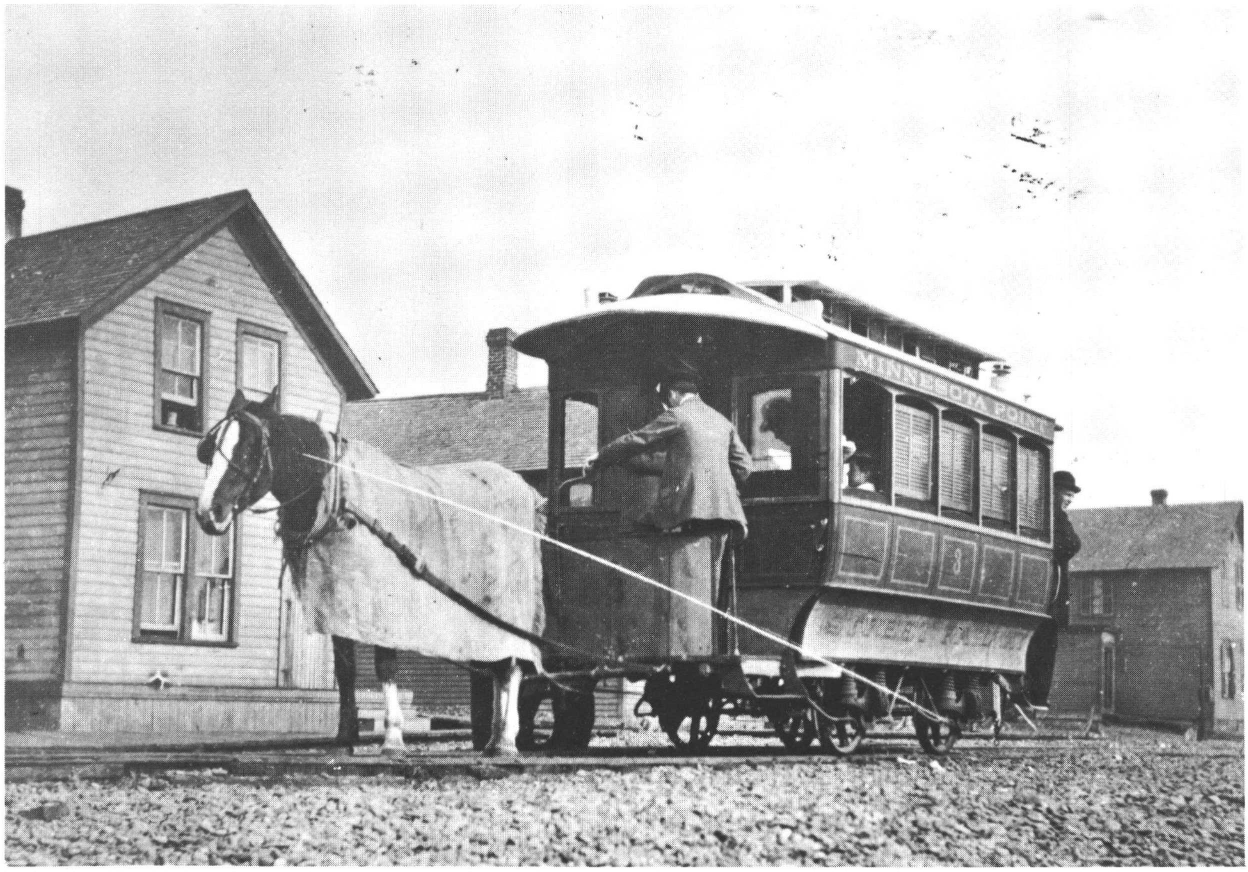
Until 1930, the only connection between Park Point and Duluth was the ferry-type car of the Aerial Bridge across the ship canal. This was rebuilt into a lift-type span with double streetcar tracks, connecting the Park Point line with Duluth via Lake Avenue. On March 12, 1930, Park Point cars began operating across the bridge to Superior Street and 8th Avenue West in downtown Duluth. Deteriorating track on Park Point and the Depression caused this service to end 15 months later when buses took over on June 16, 1931.

Unique among street railway equipment was

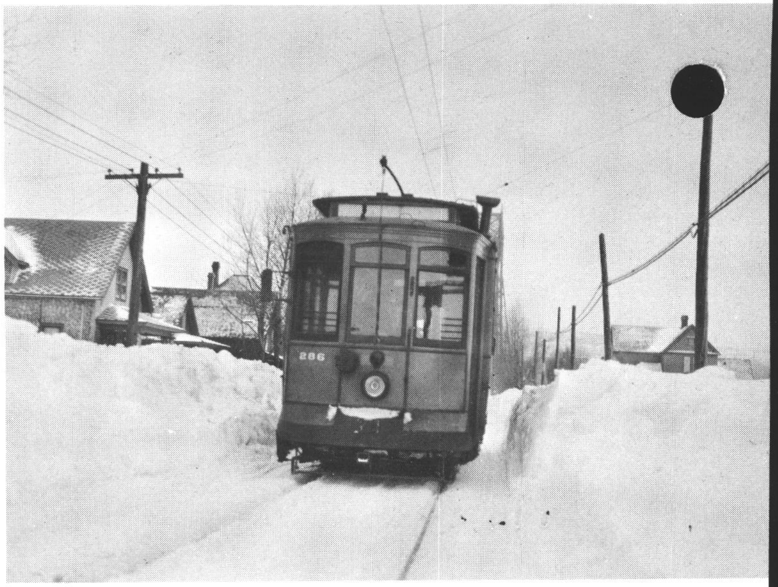



11
SAFETY FIRST
11

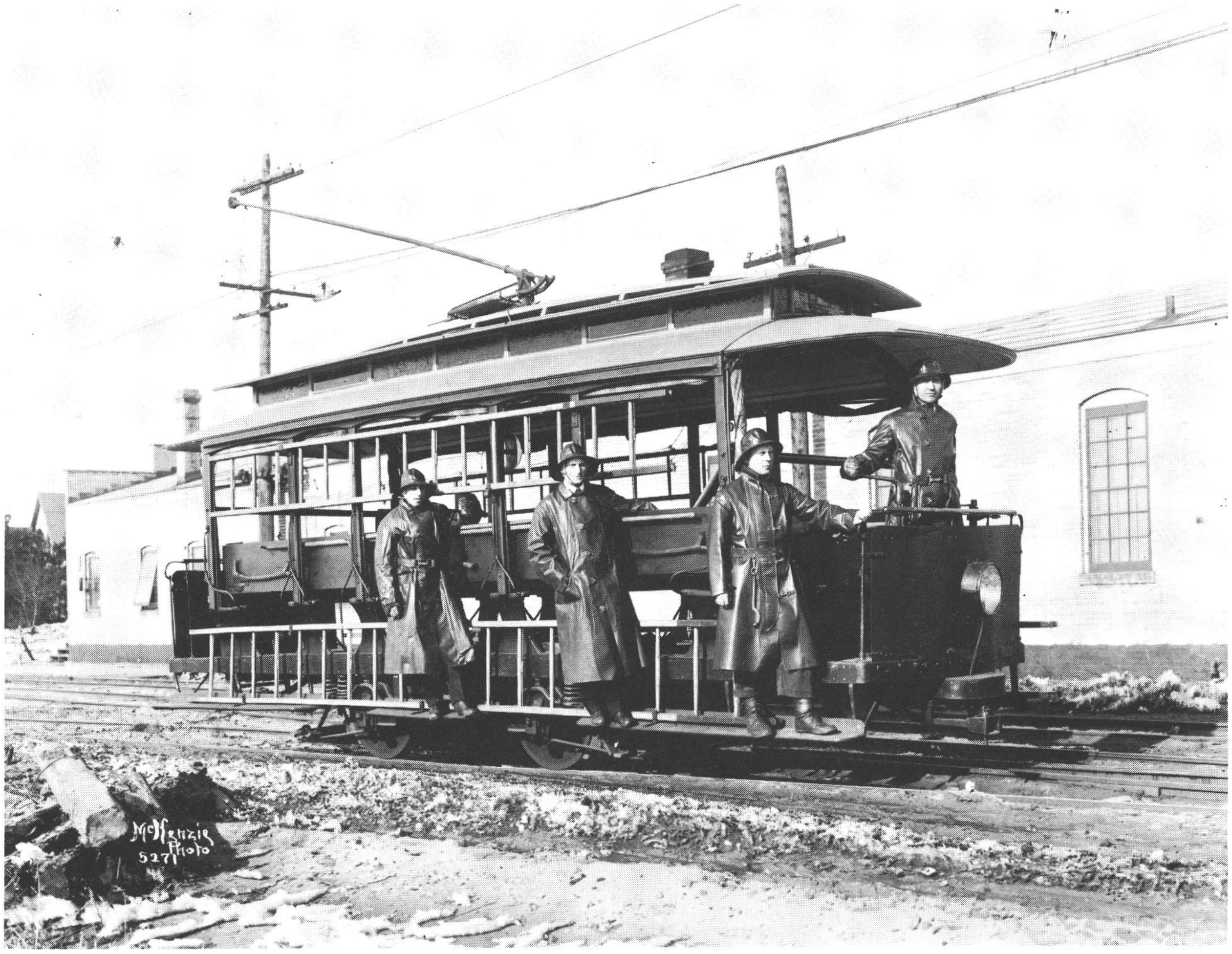
Two views of Park Point Car No. 11 showing how winters caused snow to pile up on the "sandbar." No. 11 later became Duluth No. 286. ABOVE: **The winter of 1909.** RIGHT: **The winter of 1918 which was severe throughout the country.** BELOW: **Horsecar 3 of the Minnesota Point Street Railway, the first transportation operation on Park Point. Cars and horses used by this company were purchased second-hand from Duluth.** Wayne Olsen.


MINNESOTA POINT
3
STREET RAILWAY

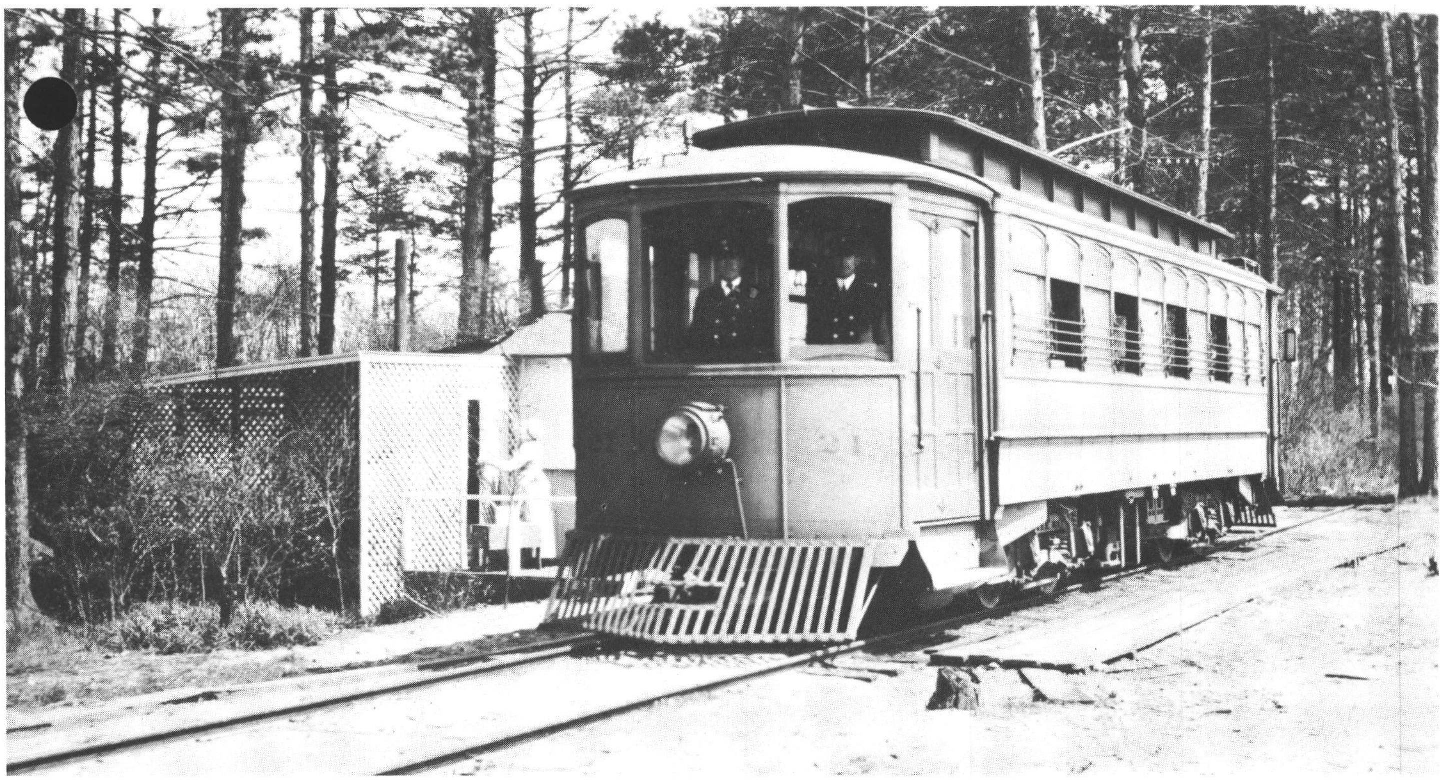
the Park Point fire car which operated from 1907 to 1930. The City of Duluth purchased an open car from the Interstate Traction Company in 1907 and converted it into a fire-fighting unit. Equipment included a pump, hose, ladders, nozzles, and rubber boots and helmets for volunteers. To man the car the city provided a fireman who was on call 24 hours a day. The street railway was paid $30 a month for the services of a motorman and for housing the car. If while going to a fire, a regular street car encountered the fire car answering an alarm, the regular crew was instructed to change ends immediately, proceed to the fire, and assist in putting out the blaze. This car was the only fire protection on Park Point until the Aerial Bridge was remodeled in 1930 permitting conventional fire equipment to be used.



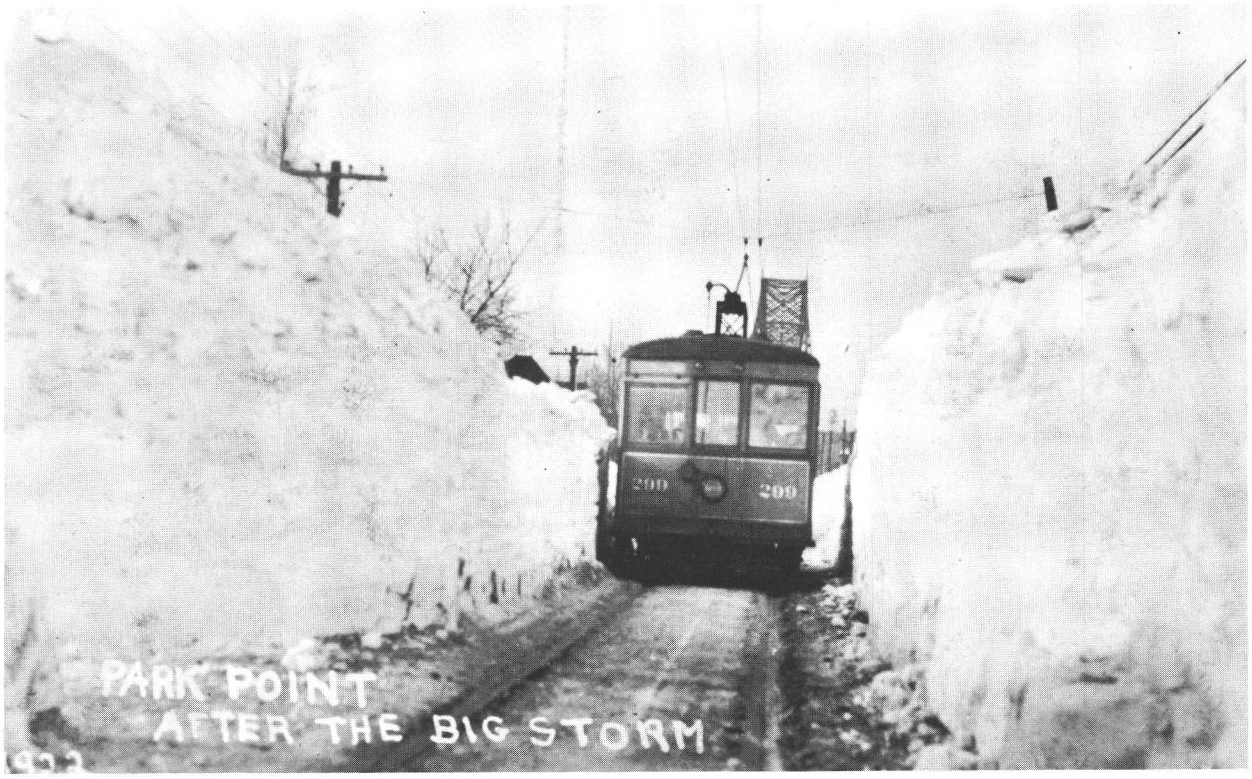
ABOVE: **Duluth No. 286, erstwhile Park Point No. 11, in 1930.** BELOW: **The Park Point fire car on the siding leading to its storage house, located across from the Park Point carbarn (in the background). Sold to Park Point about 1902 and converted in 1907, it was used until the Aerial Bridge was remodeled in 1930.** Wayne Olsen.

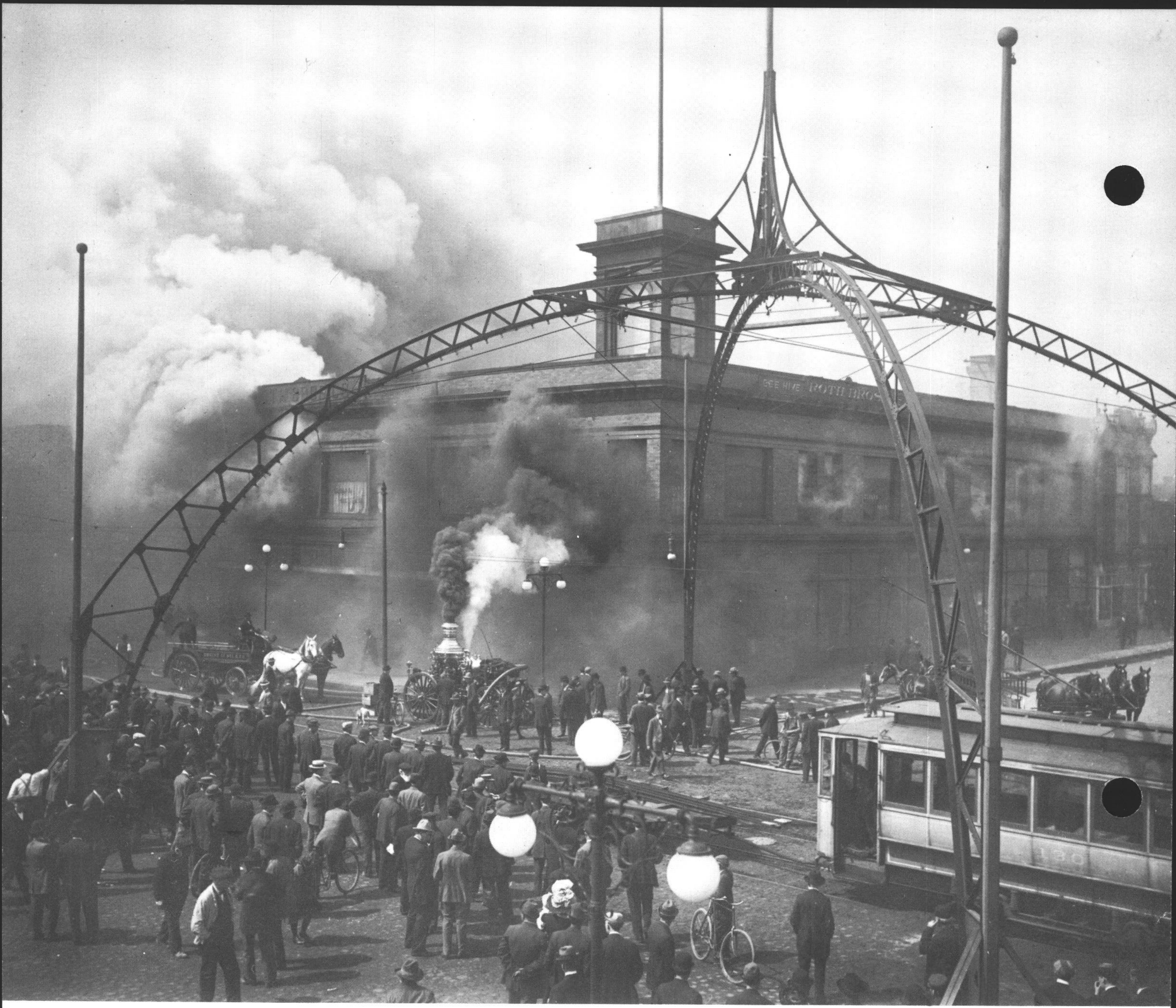


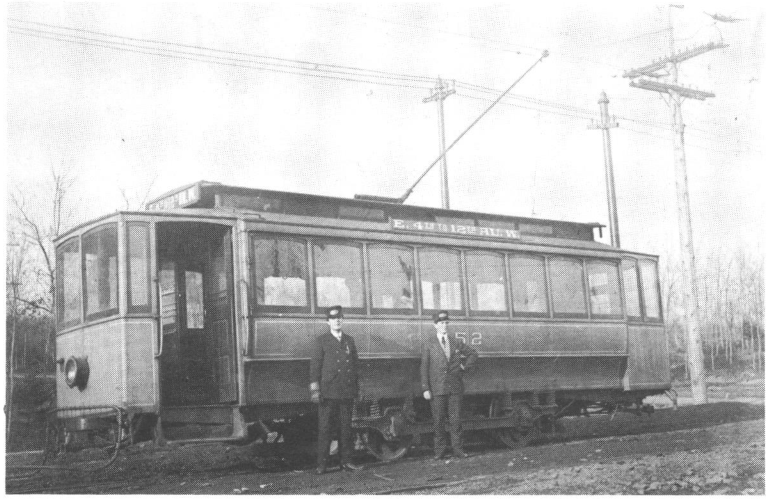
AVERY®
POLY VU



Park Point Traction Co. No. 21 at the outer end of the line in 1914. This car originally had one trolley pole mounted in the center of the car. BELOW: **Birney No. 299 on Park Point at the Aerial Bridge after service had been restored following the big blizzard of February 1922.** Wayne Olsen.

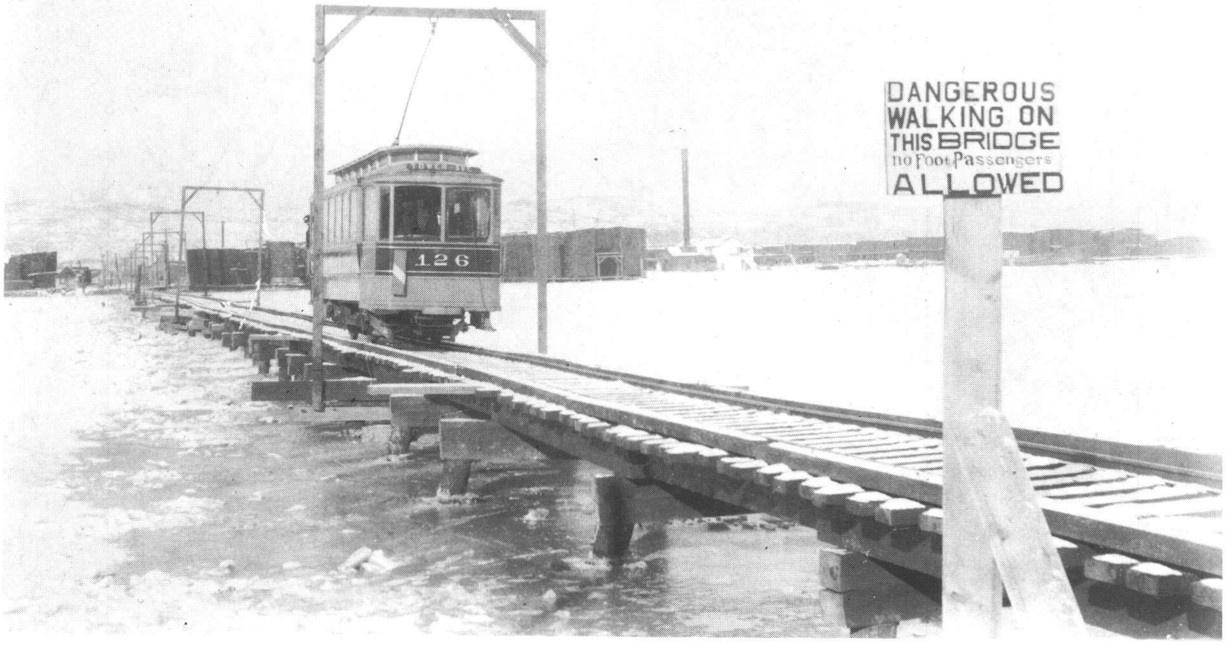

299
299
PARK POINT
AFTER THE BIG STORM
1922



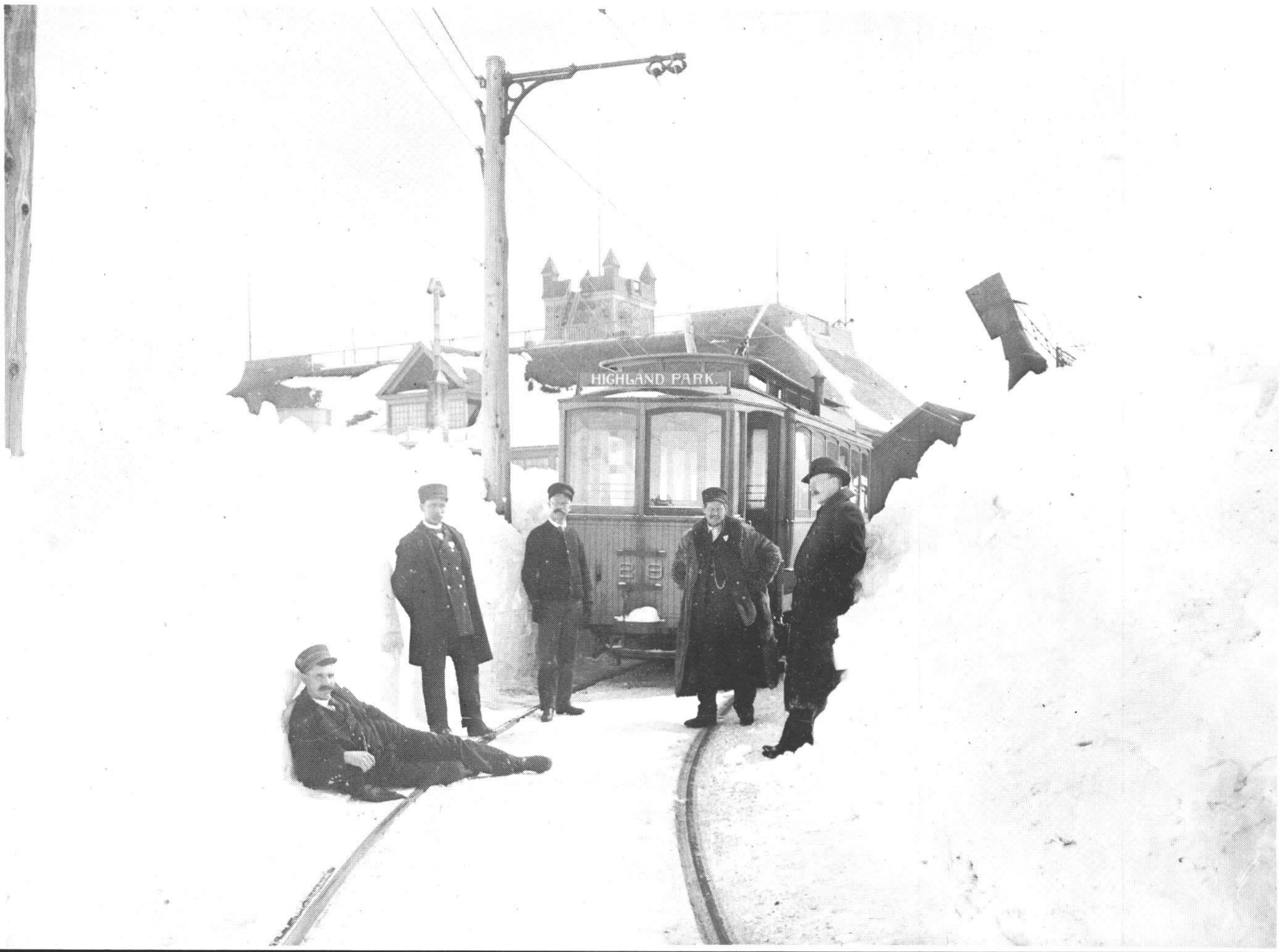


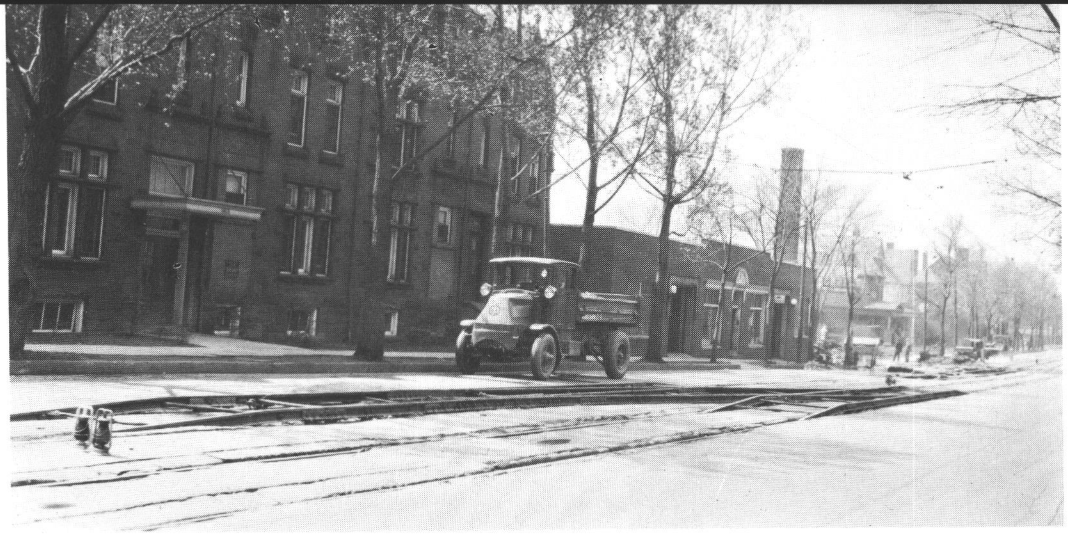
ABOVE: **Tower Avenue and Broadway in Superior during a fire before World War I. Car 130 has just crossed the hose-jumpers.** Wayne Olsen.

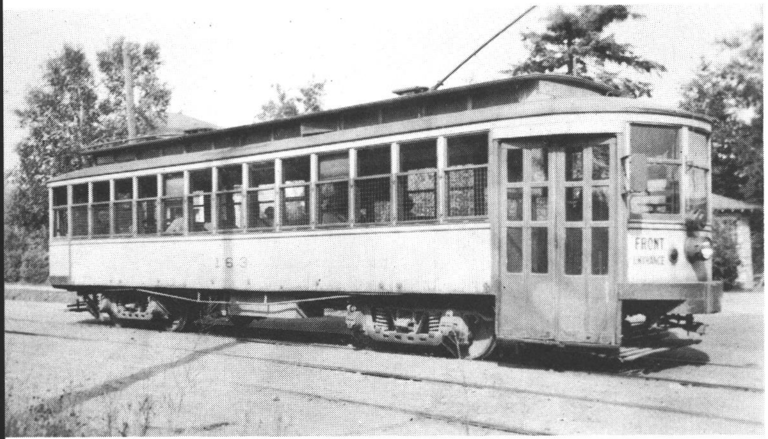
52 at end of
line.
caption missing


DANGEROUS
WALKING ON
THIS BRIDGE
no Foot Passengers
ALLOWED
126

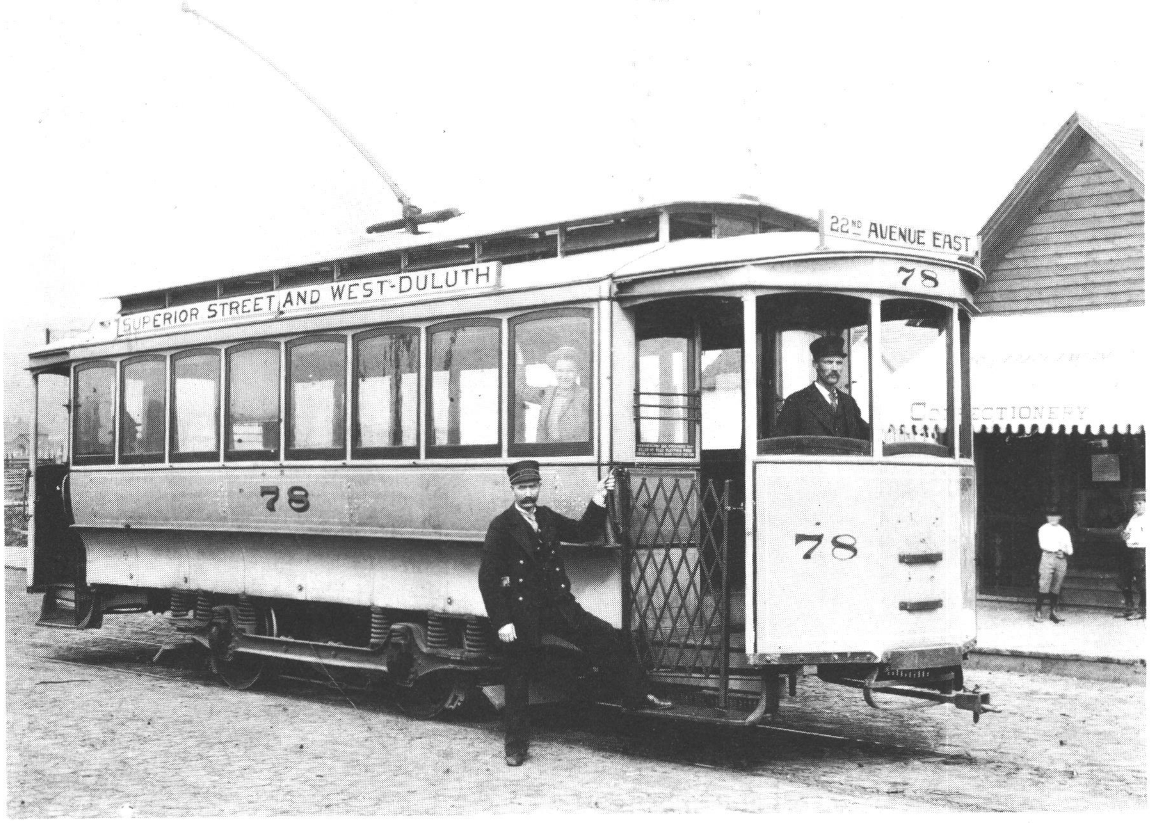
ABOVE: **No. 126 of the Superior Rapid Transit Co. on the winter-only temporary trestle built over the ice between Connor's Point in Superior and Rice's Point in Duluth. This was a joint effort of SRTC and DSR in the winters of 1895-6 and 1896-7 before the Interstate Bridge opened.** BELOW: **Car 28 at the top of the incline on the isolated Highland Avenue Line. This photo was taken before the pavilion (background) was destroyed by fire in 1901.** Wayne Olsen.

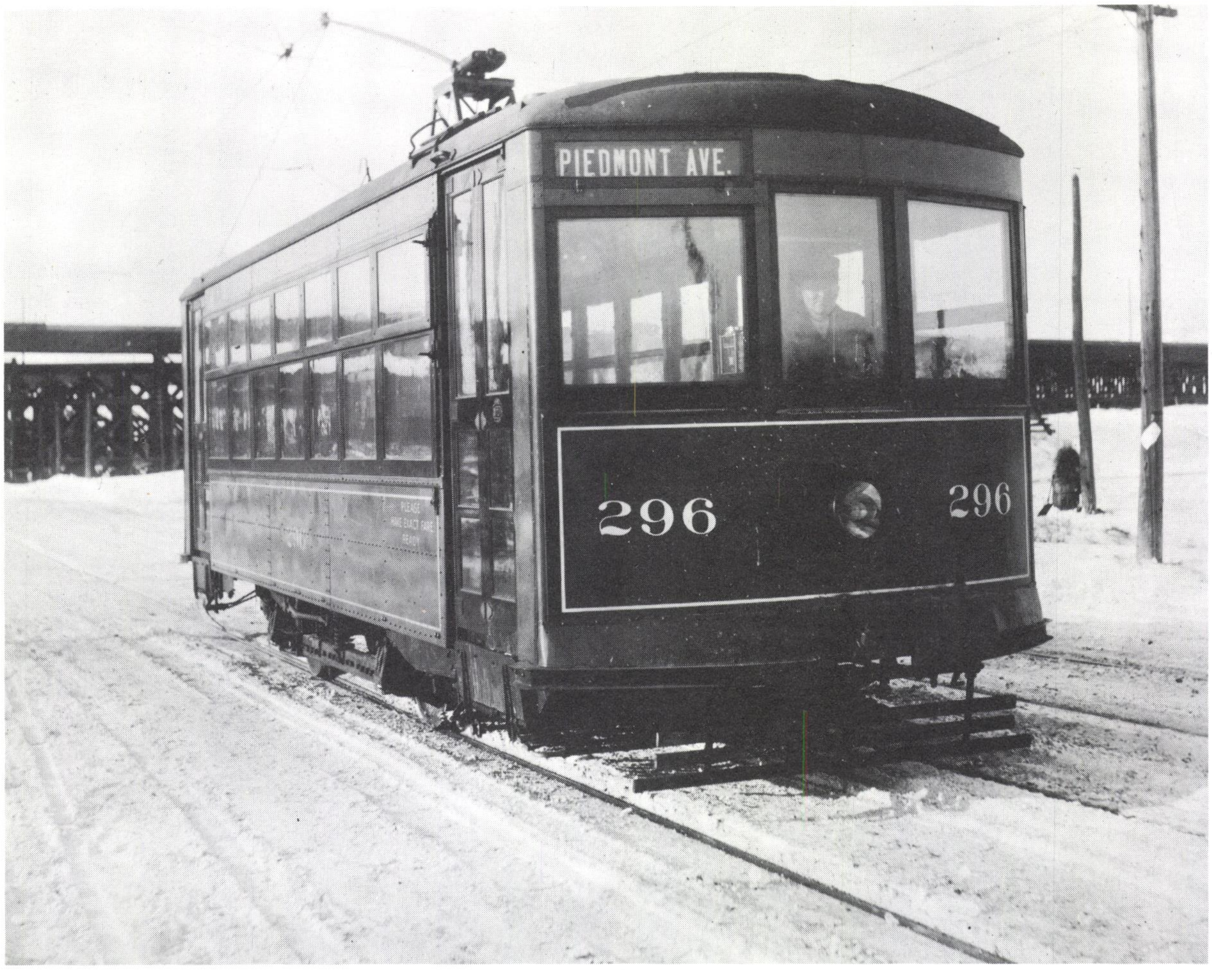

HIGHLAND PARK

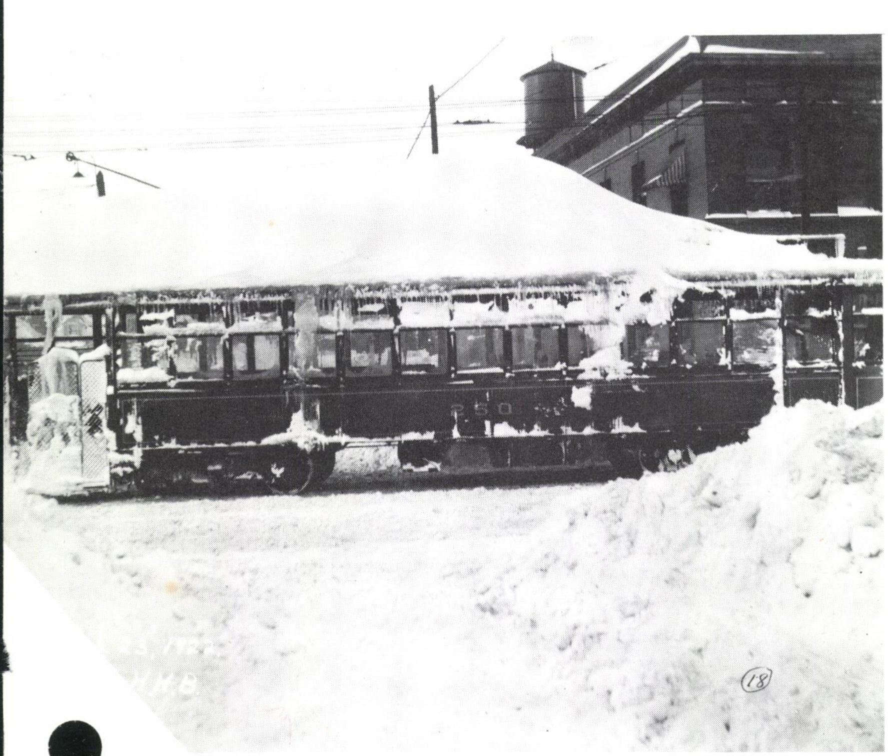



163
FRONT ENTRANCE

ABOVE: **Track reconstruction in the 1920's in Duluth. Temporary crossovers allowed service to be maintained while new rail was installed. Note the Construction Department's "bulldog" Mack truck.** Wayne Olsen. LEFT: **To provide a double-truck, double-end car for the Crosley shuttle service from 1934 to 1939, Car 163 was rebuilt. This scene is in September 1938 on 45th Avenue East near Superior Street.** Myles Jarrow. BELOW: **Car 78 providing service in Duluth about 1895.** Wayne Olsen.


22ND AVENUE EAST
SUPERIOR STREET AND WEST-DULUTH
78
78
78
CONFECTIONERY





ABOVE: **The three single-end Birneys (Nos. 295-297) were originally intended for use in Superior. Not being approved for operation there (by the Wisconsin Railroad Commission), they were used on lighter routes in Duluth, mostly on the Kenwood Line.** LEFT: **Even for the Superior-Duluth area, which is accustomed to plenty of snow, the storm of February 21, 1922 was out of the ordinary. By 6:00 a.m. on the 22nd, no streetcars were running. Full service wasn't restored in Duluth until Noon on the 25th, and not until the 28th in Superior. Here is Car 250 coming into the carbarn in February 23, 1922.** Wayne Olsen.

THE DULUTH STREET RAILWAY CO.

RAIL LINES IN DULUTH, MINN. & SUPERIOR, WISC. IN 1929

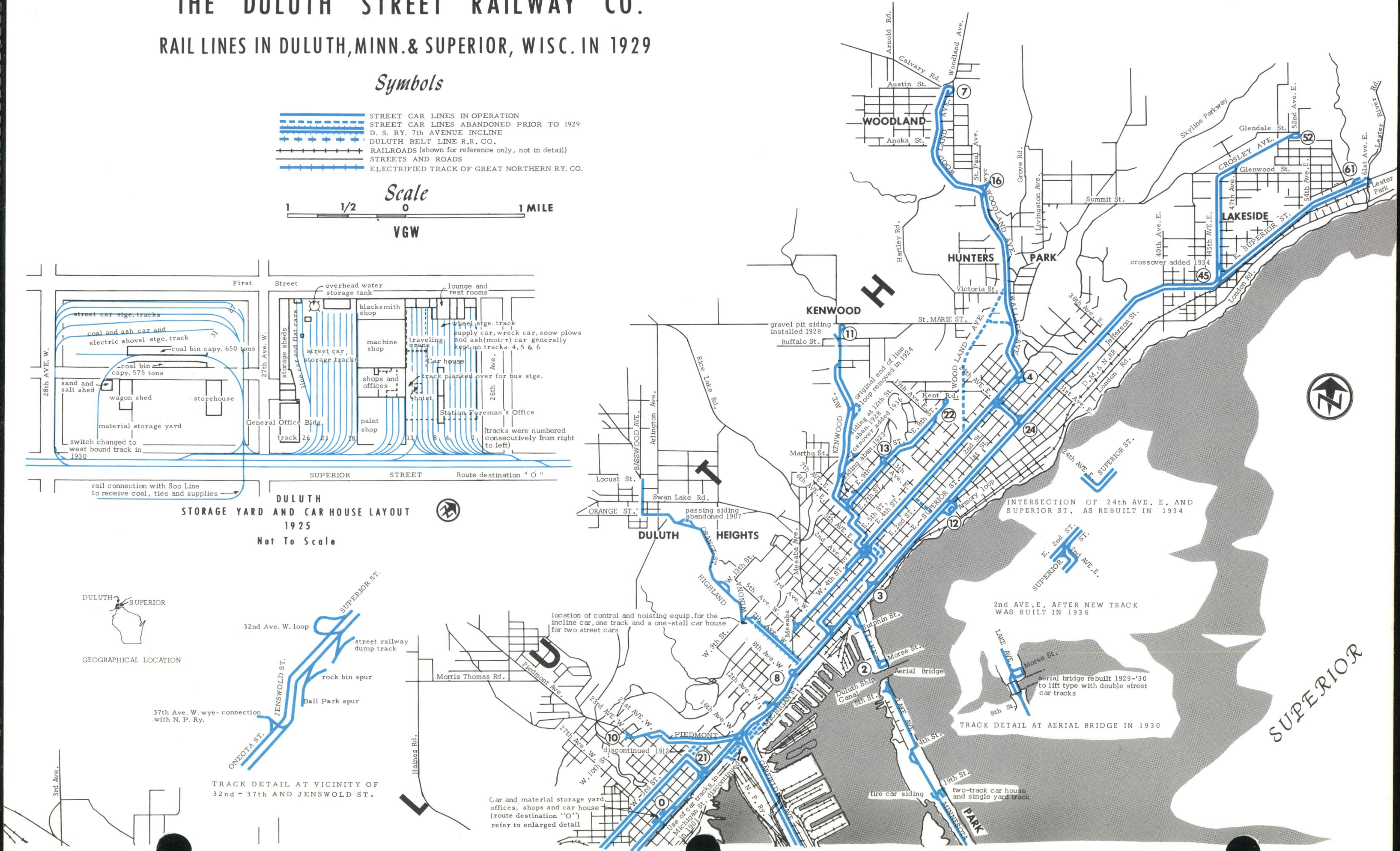
Symbols

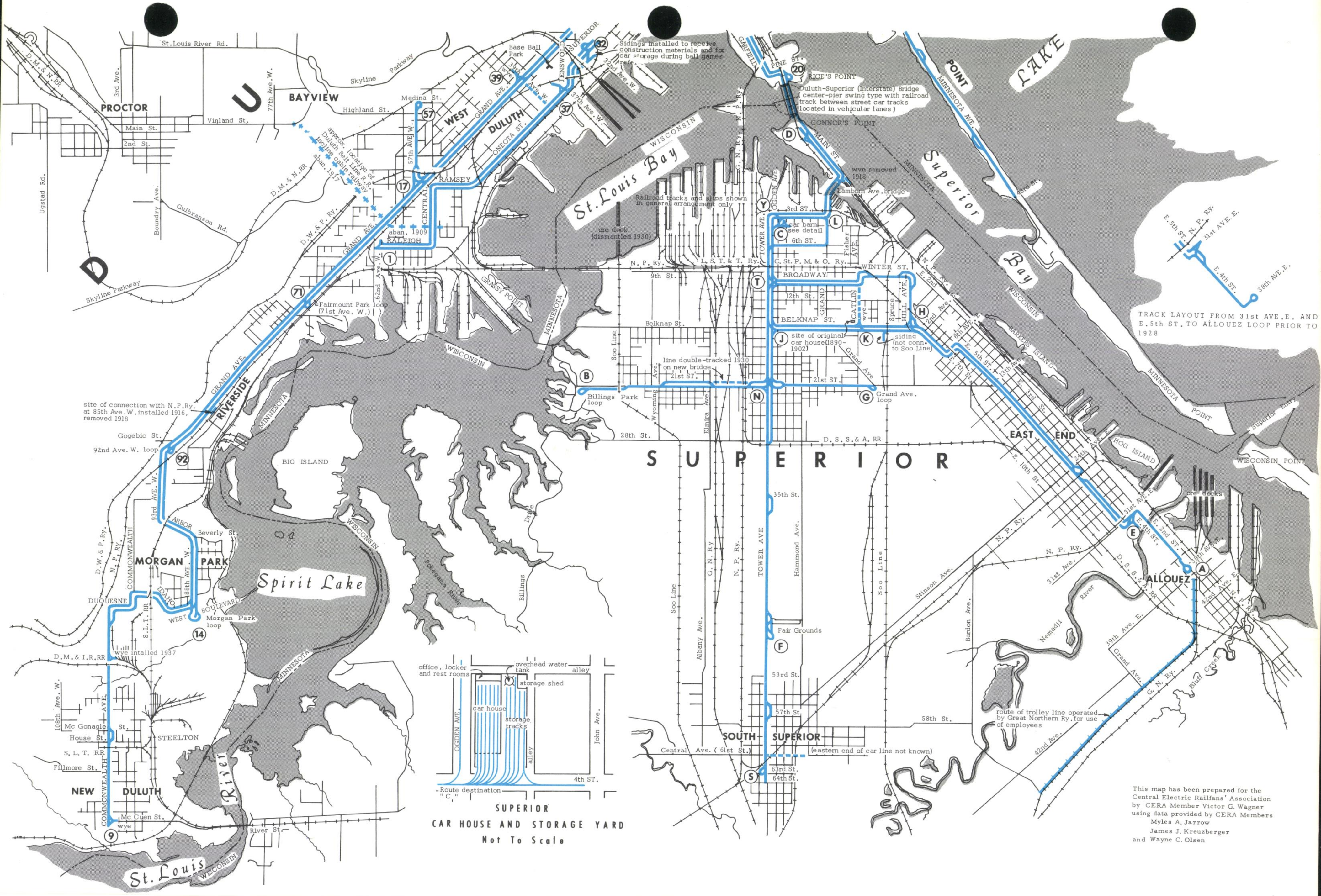
STREET CAR LINES IN OPERATION
STREET CAR LINES ABANDONED PRIOR TO 1929
D. S. RY. 7th AVENUE INCLINE
DULUTH BELT LINE R.R. CO.
RAILROADS (shown for reference only, not in detail)
STREETS AND ROADS
ELECTRIFIED TRACK OF GREAT NORTHERN RY. CO.

Scale

1 1/2 0 1 MILE

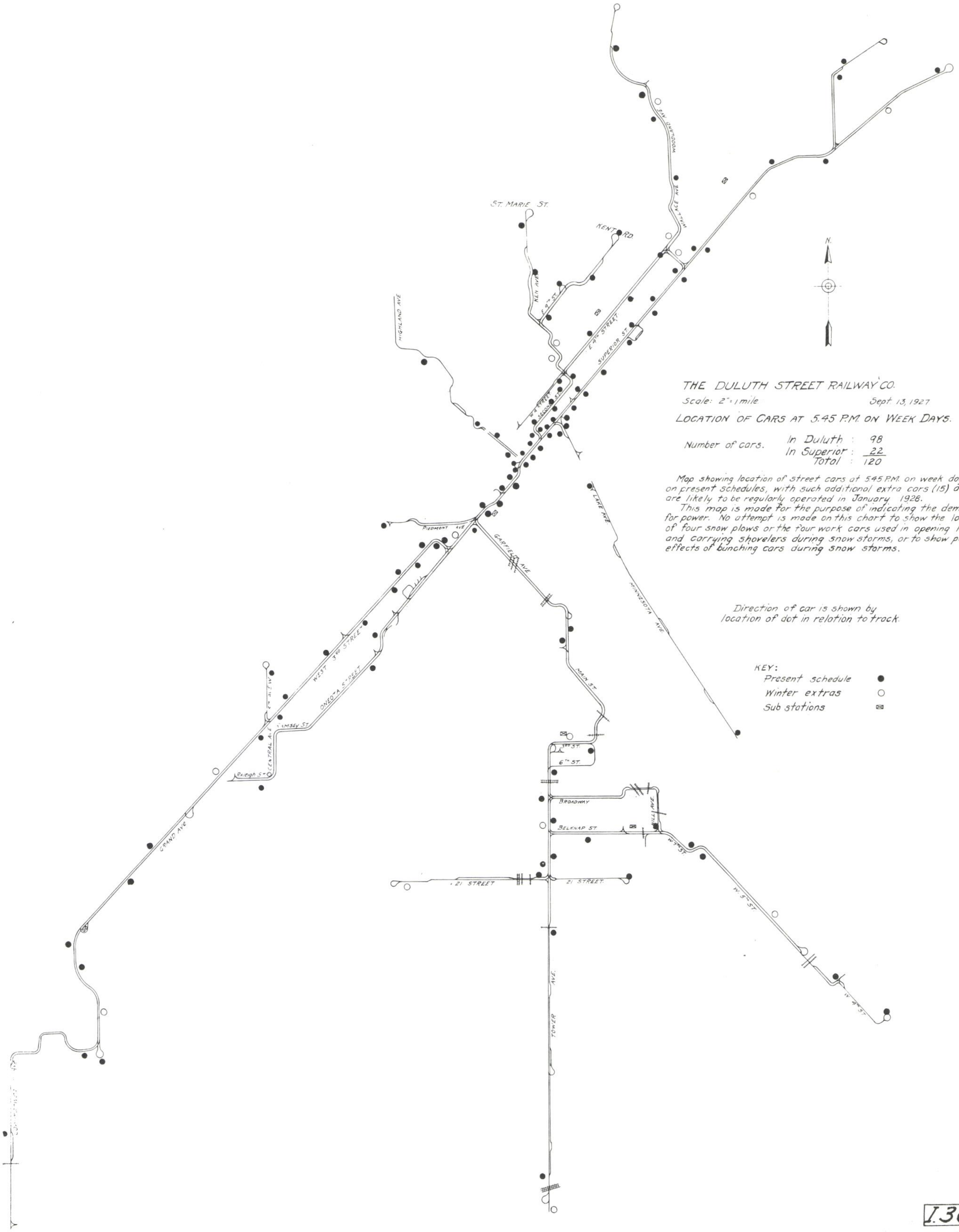
VGW


First Street
overhead water storage tank
lounge and rest rooms
street car stge. tracks
coal and ash car and electric shovel stge. track
31
27
coal bin capy. 650 tons
coal bin capy. 575 tons
sand and salt shed
wagon shed
storehouse
material storage yard
switch changed to west bound track in 1930
28th AVE. W.
27th Ave. W.
storage sheds
line car and flat cars
street car storage tracks
blacksmith shop
machine shop
shops and offices
paint shop
traveling crane
Car house
hoist
wheel stge. track
supply car, wreck car, snow plows and ash(motor) car generally kept on tracks 4, 5 & 6
track planked over for bus stge.
Station Foreman's Office
26th Ave.
General Office Bldg.
track 26 23 18 13 8 6 1
(tracks were numbered consecutively from right to left)
SUPERIOR STREET
Route destination "O"
rail connection with Soo Line to receive coal, ties and supplies
DULUTH
STORAGE YARD AND CAR HOUSE LAYOUT
1925
Not To Scale
DULUTH
SUPERIOR
GEOGRAPHICAL LOCATION
32nd Ave. W. loop
SUPERIOR ST.
street railway dump track
rock bin spur
Ball Park spur
37th Ave. W. wye-connection with N. P. Ry.
JENSWOLD ST.
ONEOTA ST.
TRACK DETAIL AT VICINITY OF 32nd - 37th AND JENSWOLD ST.
3rd Ave.
Haines Rd.
Morris Thomas Rd.
Piedmont Ave.
D
U
L
U
T
H
WOODLAND
Arnold Rd.
Calvary Rd.
Woodland Ave.
Austin St.
Anoka St.
WOODLAND AVE.
St. Paul Ave.
wye
Grove Rd.
Livingston Ave.
Summit St.
Skyline Parkway
Glendale St.
52nd Ave. E.
CROSLEY AVE.
Glenwood St.
61st Ave. E.
Lester River Rd.
Lester Park
54th Ave. E.
47th Ave.
LAKESIDE
40th Ave. E.
45th AVE. E.
crossover added 1934
E. SUPERIOR ST.
London Rd.
Hartley Rd.
HUNTERS PARK
Victoria St.
WALLACE AVE.
St. MARIE ST.
KENWOOD
gravel pit siding installed 1928
Buffalo St.
KENWOOD AVE.
original end of line loop removed in 1924
siding at 12th St. aban. 1928
crossover added 1936
siding aban. 1923
19th Ave. E.
Kent Rd.
E. 8th ST.
WOOD LAND AVE.
24th AVE. E.
36th Ave. E.
Jefferson St.
D. M. & N. RR
31st Ave. E.
Martha St.
7th AVE. E.
6th AVE. E.
13th Ave. E.
E. 9th ST.
E. 7th ST.
E. 5th ST.
E. 4th ST.
E. 2nd ST.
E. SUPERIOR ST.
2nd St.
1st St.
Armory loop
5th AVE. E.
2nd Ave. E.
24th AVE. E.
SUPERIOR ST.
INTERSECTION OF 24th AVE. E. AND SUPERIOR ST. AS REBUILT IN 1934
E. 2nd ST.
2nd AVE. E.
SUPERIOR ST.
2nd AVE. E. AFTER NEW TRACK WAS BUILT IN 1936
Rice Lake Rd.
Arlington Ave.
BASSWOOD AVE.
Locust St.
Swan Lake Rd.
ORANGE ST.
passing siding abandoned 1907
DULUTH HEIGHTS
ORANGE ST.
W. 13th St.
HIGHLAND
WINONA
5th Ave. W.
3rd Ave. W.
Mesaba Ave.
W. 4th ST.
7th Ave. W.
location of control and hoisting equip. for the incline car, one track and a one-stall car house for two street cars
W. 9th St.
8th Ave. W.
12th Ave. W.
16th Ave. W.
MICHIGAN ST.
Sutphin St.
LAKE AVE.
Morse St.
Aerial Bridge
Duluth Ship Canal
8th St.
LAKE AVE.
14th St.
19th St.
fire car siding
two-track car house and single yard track
MINNESOTA
PARK
LAKE AVE.
Morse St.
aerial bridge rebuilt 1929-'30 to lift type with double street car tracks
8th St.
TRACK DETAIL AT AERIAL BRIDGE IN 1930
SUPERIOR
23rd AVE. W.
21st AVE. W.
PIEDMONT
27th Ave. W.
W. 10th St.
discontinued 1912
W. 3rd ST.
Car and material storage yard, offices, shops and car house (route destination "O") refer to enlarged detail
Use of car tracks in Michigan St. discontinued in 1901
N. P. Ry.
GARFIELD AVE.
7
16
52
61
45
11
4
22
24
13
12
3
2
8
10
21
0


LAKE
SUPERIOR
DULUTH
PROCTOR
BAYVIEW
WEST DULUTH
St. Louis Bay
Superior Bay
St. Louis River
Spirit Lake
BIG ISLAND
MORGAN PARK
NEW DULUTH
STEELTON
RIVERSIDE
RAMSEY
RALEIGH
EAST END
ALLOUEZ
SOUTH SUPERIOR
RICE'S POINT
CONNOR'S POINT
WISCONSIN POINT
MINNESOTA POINT
HOG ISLAND
BARKERS ISLAND
St. Louis River Rd.
Skyline Parkway
Highland St.
Vinland St.
Main St.
2nd St.
Ugstad Rd.
Boundry Ave.
Gulbranson Rd.
3rd Ave.
77th Ave. W.
D. M. & N. RR
D. W. & P. Ry.
GRAND AVE.
CENTRAL AVE.
57th AVE. W.
Medina St.
Base Ball Park
JENSWOLD
SUPERIOR
32nd Ave. W.
37th Ave. W.
ONEOTA ST.
approx. location of Duluth Belt Line R.R. incline cable railway aban. 1917
aban. 1909
62nd Ave. W.
GRASSY POINT
Fairmount Park loop (71st Ave. W.)
Sidings installed to receive construction materials and for car storage during ball games
Duluth-Superior (Interstate) Bridge (center-pier swing type with railroad track between street car tracks located in vehicular lanes)
GARFIELD
PINE ST.
MAIN ST.
wye removed 1918
Lamborn Ave. bridge
Railroad tracks and slips shown in general arrangement only
ore dock (dismantled 1930)
OGDEN AVE.
TOWER AVE.
3rd St.
car barn see detail
6th ST.
Fisher Ave.
N. P. Ry.
L. S. T. & T. Ry.
C. St. P. M. & O. Ry.
WINTER ST.
9th St.
BROADWAY
12th St.
GRAND
CATLIN
wye
Spruce
HILL AVE.
BELKNAP ST.
Belknap St.
site of original car house (1890-1902)
siding (not conn. to Soo Line)
Grand Ave.
line double-tracked 1930 on new bridge
21st St.
Billings Park loop
Grand Ave. loop
Soo Line
Wyoming Ave.
Elmira Ave.
28th St.
D. S. S. & A. RR
S U P E R I O R
35th St.
Hammond Ave.
Fair Grounds
53rd St.
57th St.
58th St.
Central Ave. (61st St.)
(eastern end of car line not known)
63rd St.
64th St.
Albany Ave.
G. N. Ry.
Stinson Ave.
Bardon Ave.
Nemadji River
Bluff Creek
39th Ave. E.
42nd Ave.
route of trolley line operated by Great Northern Ry. for use of employees
E. 2nd St.
E. 5th St.
E. 10th St.
24th Ave. E.
31st Ave. E.
31st Ave.
38th Ave. E.
E. 4th St.
ore docks
TRACK LAYOUT FROM 31st AVE. E. AND E. 5th ST. TO ALLOUEZ LOOP PRIOR TO 1928
site of connection with N. P. Ry. at 85th Ave. W. installed 1916, removed 1918
Gogebic St.
92nd Ave. W. loop
93rd AVE. W.
ARBOR
Beverly St.
88th AVE. W.
IDAHO
BOULEVARD
WEST
Morgan Park loop
DUQUESNE
COMMONWEALTH
N. P. Ry.
S. L. T. RR
wye intalled 1937
D. M. & I. R. RR
108th Ave. W.
Mc Gonagle St.
House St.
S. L. T. RR
Fillmore St.
Mc Cuen St.
wye
River St.
Pokegama River
Billings Dr.
WISCONSIN
MINNESOTA
Superior Entry
1
9
14
17
20
32
37
39
57
71
92
A
B
C
D
E
F
G
H
J
K
L
N
S
T
Y
office, locker and rest rooms
overhead water tank
storage shed
alley
car house
storage tracks
OGDEN AVE.
John Ave.
4th ST.
Route destination "C."

SUPERIOR
CAR HOUSE AND STORAGE YARD
Not To Scale

This map has been prepared for the Central Electric Railfans' Association by CERA Member Victor G. Wagner using data provided by CERA Members
Myles A. Jarrow
James J. Kreuzberger
and Wayne C. Olsen


ST. MARIE ST.
KENT RD.
WOODLAND AVE
WALLACE AVE
KEN AVE
E 9TH ST.
HIGHLAND AVE
E 4TH STREET
SUPERIOR ST.
W 4 STREET
SECOND ST.
LAKE AVE.
MINNESOTA AVE.
PIEDMONT AVE
GARFIELD AVE
WEST 3RD STREET
ONEOTA STREET
RAMSEY ST.
CENTRAL AVE
Raleigh St.
GRAND AVE
MAIN ST.
3RD ST.
6TH ST.
BROADWAY
BELKNAP ST.
HILL AVE.
W. 3RD ST.
W. 5TH ST.
W. 4TH ST.
21 STREET
21 STREET
TOWER AVE.
N.

THE DULUTH STREET RAILWAY CO.

Scale: 2" = 1 mile
Sept. 13, 1927

LOCATION OF CARS AT 5.45 P.M. ON WEEK DAYS.

Number of cars.	In Duluth :	98
	In Superior :	22
	Total :	120

Map showing location of street cars at 5.45 P.M. on week days on present schedules, with such additional extra cars (15) as are likely to be regularly operated in January 1928.

This map is made for the purpose of indicating the demands for power. No attempt is made on this chart to show the location of four snow plows or the four work cars used in opening lines and carrying shovelers during snow storms, or to show possible effects of bunching cars during snow storms.

Direction of car is shown by location of dot in relation to track.

KEY:

Present schedule	●
Winter extras	○
Sub stations	⊠

I.309

THE DULUTH STREET RAILWAY COMPANY

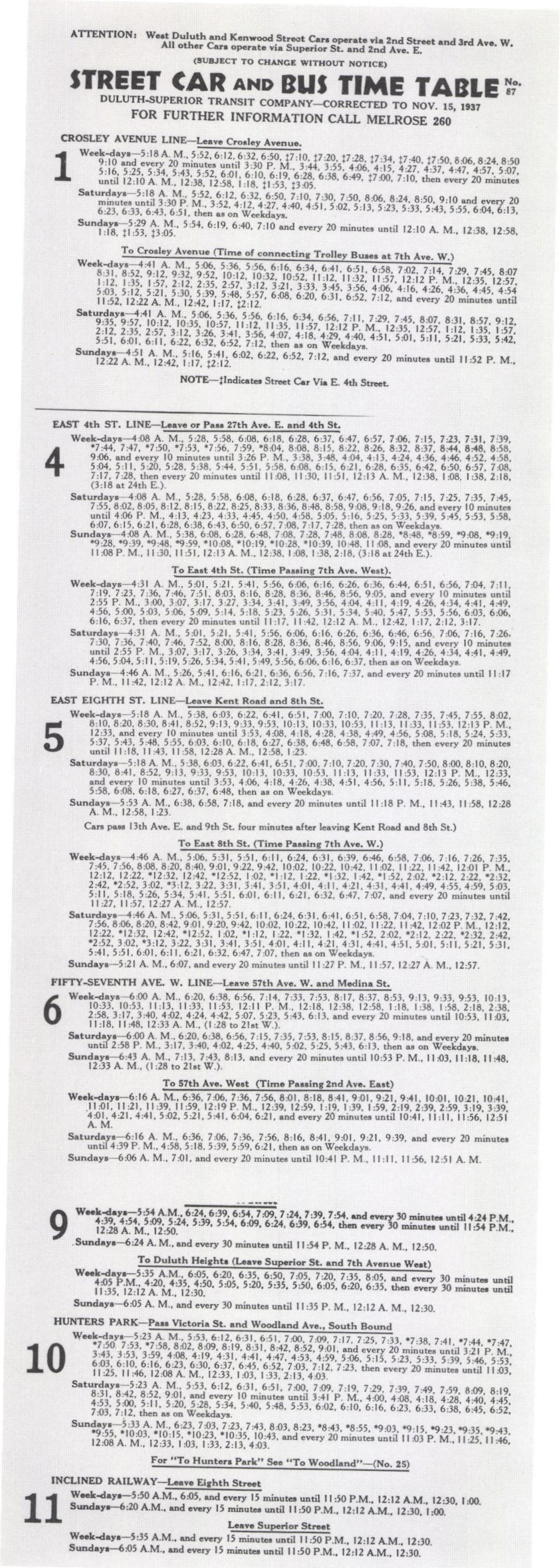
Routing, Headway, Speed and Number of Cars Scheduled.

No. (See Map)	Name of Line	Base Headway	No. Cars Basic Schedule	Rush Hour Headways			Additional Cars - Rush Hours						Length of Line (Round trip miles)	Schedule Speed Miles Per Hour		Duration of Layover	Running Time (Mins. Round trip Midday - Excl.Layover)
				A.M.	Midday	P.M.	A.M.		Midday		P.M.			With Layover	Without Layover		
							Summer	Winter	Summer	Winter	Summer	Winter					
	Main Lines																
1	Lester Park	20	23	10	20	10	19	29	6	6	32	36	12.30*	10.98	12.72#	9#	58
2	Crosley Ave.	20		10	20	10							12.48	11.52	12.90	7	58
3	Woodland	20		10	20	10							11.64	10.74	11.64	5	60
4	East 8th St.	20		10	20	7½							5.78	7.50	8.88	7	39
	to -												24.69	12.42	13.68	11	108
5	New Duluth	20		20	20	20							10.86	8.22	11.40	22	57
6	57W. & Medina St.	20		20	20	20							12.05	10.50	12.05	8½	60
7	71st W. & Grand	-		10	10	10											
8	Aerial Bridge	20	4	10	10	10	4	4	4	4	5	5	6.83	8.16	10.74	4-8	38
9	to 32nd Ave. W.	-		10	10	10							12.71	10.86	11.88	6	64
10	& West Duluth	20		10	20	10											
	Hill Lines																
11-12	Kenwood to 8W.	20	3	20	20	20	0	0	0	0	1	1	7.24	7.24	10.08	9-8	43
13-12	East 4th St. to 8W	10	6	10	10	7½	1	2	0	0	2	3	6.30	7.56	9.90	8-4	38
14	& Piedmont Ave.	20		10	20	10							9.69	8.28	9.69	6-4	60
15-16	W4th (5E.to 5W.)	20	1	20	20	20	0	0	0	0	0	0	1.87	5.61	8.20	4-5	11
17	Incline	15	2	15	15	15	0	0	0	0	0	0	1.12	4.44	8.40	7	8
18	Highland	30	1	15	30	15	1	1	0	0	1	1	3.72	7.44	11.70	10-1	19
19	Park Point	20	2	20	20	20	0	0	0	0	0	0	6.61	9.90	11.64	3-3	34
	Interstate																
20-21	Armory Loop to S.Sup.	20	9	10	20	10	4	4	0	0	4	4	22.91	10.56	12.00	10-6	114
22	" " 21st & Gd												17.99	9.72	12.00	10-10	90
23-24	Billings Pk.& Bdw.	20	3	20	20	20	0	0	0	0	0	1	8.96	8.96	11.16	8-4	48
25-26	Allouez, E.End	20	4	10	10	10	3	4	3	3	3	6	12.56	9.42	11.50	14	66
27	to 6th St. Loop																
	Total -		58				32	44	13	13	48	57		9.56-(1st 8 Mos.1929)			

* As the lines under "Main Lines" are all operated together by through-routing, distance and speed on each is figured to 3rd Ave. West, the business center.

# Under winter conditions more running time is allowed and less layover is left.

RBT-9/18/29.
PO.



ATTENTION: West Duluth and Kenwood Street Cars operate via 2nd Street and 3rd Ave. W.
All other Cars operate via Superior St. and 2nd Ave. E.

(SUBJECT TO CHANGE WITHOUT NOTICE)

STREET CAR AND BUS TIME TABLE No. 87

DULUTH-SUPERIOR TRANSIT COMPANY—CORRECTED TO NOV. 15, 1937

FOR FURTHER INFORMATION CALL MELROSE 260

CROSLEY AVENUE LINE—Leave Crosley Avenue.

1

Week-days—5:18 A. M., 5:52, 6:12, 6:32, 6:50, ‡7:10, ‡7:20, ‡7:28, ‡7:34, ‡7:40, ‡7:50, 8:06, 8:24, 8:50 9:10 and every 20 minutes until 3:30 P. M., 3:44, 3:55, 4:06, 4:15, 4:27, 4:37, 4:47, 4:57, 5:07, 5:16, 5:25, 5:34, 5:43, 5:52, 6:01, 6:10, 6:19, 6:28, 6:38, 6:49, ‡7:00, 7:10, then every 20 minutes until 12:10 A. M., 12:38, 12:58, 1:18, ‡1:53, ‡3:05.

Saturdays—5:18 A. M., 5:52, 6:12, 6:32, 6:50, 7:10, 7:30, 7:50, 8:06, 8:24, 8:50, 9:10 and every 20 minutes until 3:30 P. M., 3:52, 4:12, 4:27, 4:40, 4:51, 5:02, 5:13, 5:23, 5:33, 5:43, 5:55, 6:04, 6:13, 6:23, 6:33, 6:43, 6:51, then as on Weekdays.

Sundays—5:29 A. M., 5:54, 6:19, 6:40, 7:10 and every 20 minutes until 12:10 A. M., 12:38, 12:58, 1:18, ‡1:53, ‡3:05.

To Crosley Avenue (Time of connecting Trolley Buses at 7th Ave. W.)

Week-days—4:41 A. M., 5:06, 5:36, 5:56, 6:16, 6:34, 6:41, 6:51, 6:58, 7:02, 7:14, 7:29, 7:45, 8:07 8:31, 8:52, 9:12, 9:32, 9:52, 10:12, 10:32, 10:52, 11:12, 11:32, 11:57, 12:12 P. M., 12:35, 12:57, 1:12, 1:35, 1:57, 2:12, 2:35, 2:57, 3:12, 3:21, 3:33, 3:45, 3:56, 4:06, 4:16, 4:26, 4:36, 4:45, 4:54 5:03, 5:12, 5:21, 5:30, 5:39, 5:48, 5:57, 6:08, 6:20, 6:31, 6:52, 7:12, and every 20 minutes until 11:52, 12:22 A. M., 12:42, 1:17, ‡2:12.

Saturdays—4:41 A. M., 5:06, 5:36, 5:56, 6:16, 6:34, 6:56, 7:11, 7:29, 7:45, 8:07, 8:31, 8:57, 9:12, 9:35, 9:57, 10:12, 10:35, 10:57, 11:12, 11:35, 11:57, 12:12 P. M., 12:35, 12:57, 1:12, 1:35, 1:57, 2:12, 2:35, 2:57, 3:12, 3:26, 3:41, 3:56, 4:07, 4:18, 4:29, 4:40, 4:51, 5:01, 5:11, 5:21, 5:33, 5:42, 5:51, 6:01, 6:11, 6:22, 6:32, 6:52, 7:12, then as on Weekdays.

Sundays—4:51 A. M., 5:16, 5:41, 6:02, 6:22, 6:52, 7:12, and every 20 minutes until 11:52 P. M., 12:22 A. M., 12:42, 1:17, ‡2:12.

NOTE—‡Indicates Street Car Via E. 4th Street.

EAST 4th ST. LINE—Leave or Pass 27th Ave. E. and 4th St.

4

Week-days—4:08 A. M., 5:28, 5:58, 6:08, 6:18, 6:28, 6:37, 6:47, 6:57, 7:06, 7:15, 7:23, 7:31, 7:39, *7:44, 7:47, *7:50, *7:53, *7:56, 7:59, *8:04, 8:08, 8:15, 8:22, 8:26, 8:32, 8:37, 8:44, 8:48, 8:58, 9:06, and every 10 minutes until 3:26 P. M., 3:38, 3:48, 4:04, 4:13, 4:24, 4:36, 4:46, 4:52, 4:58, 5:04, 5:11, 5:20, 5:28, 5:38, 5:44, 5:51, 5:58, 6:08, 6:15, 6:21, 6:28, 6:35, 6:42, 6:50, 6:57, 7:08, 7:17, 7:28, then every 20 minutes until 11:08, 11:30, 11:51, 12:13 A. M., 12:38, 1:08, 1:38, 2:18, (3:18 at 24th E.).

Saturdays—4:08 A. M., 5:28, 5:58, 6:08, 6:18, 6:28, 6:37, 6:47, 6:56, 7:05, 7:15, 7:25, 7:35, 7:45, 7:55, 8:02, 8:05, 8:12, 8:15, 8:22, 8:25, 8:33, 8:36, 8:48, 8:58, 9:08, 9:18, 9:26, and every 10 minutes until 4:06 P. M., 4:13, 4:23, 4:33, 4:45, 4:50, 4:58, 5:05, 5:16, 5:25, 5:33, 5:39, 5:45, 5:53, 5:58, 6:07, 6:15, 6:21, 6:28, 6:38, 6:43, 6:50, 6:57, 7:08, 7:17, 7:28, then as on Weekdays.

Sundays—4:08 A. M., 5:38, 6:08, 6:28, 6:48, 7:08, 7:28, 7:48, 8:08, 8:28, *8:48, *8:59, *9:08, *9:19, *9:28, *9:39, *9:48, *9:59, *10:08, *10:19, *10:28, *10:39, 10:48, 11:08, and every 20 minutes until 11:08 P. M., 11:30, 11:51, 12:13 A. M., 12:38, 1:08, 1:38, 2:18, (3:18 at 24th E.).

To East 4th St. (Time Passing 7th Ave. West).

Week-days—4:31 A. M., 5:01, 5:21, 5:41, 5:56, 6:06, 6:16, 6:26, 6:36, 6:44, 6:51, 6:56, 7:04, 7:11, 7:19, 7:23, 7:36, 7:46, 7:51, 8:03, 8:16, 8:28, 8:36, 8:46, 8:56, 9:05, and every 10 minutes until 2:55 P. M., 3:00, 3:07, 3:17, 3:27, 3:34, 3:41, 3:49, 3:56, 4:04, 4:11, 4:19, 4:26, 4:34, 4:41, 4:49, 4:56, 5:00, 5:03, 5:06, 5:09, 5:14, 5:18, 5:23, 5:26, 5:31, 5:34, 5:40, 5:47, 5:53, 5:56, 6:03, 6:06, 6:16, 6:37, then every 20 minutes until 11:17, 11:42, 12:12 A. M., 12:42, 1:17, 2:12, 3:17.

Saturdays—4:31 A. M., 5:01, 5:21, 5:41, 5:56, 6:06, 6:16, 6:26, 6:36, 6:46, 6:56, 7:06, 7:16, 7:26, 7:30, 7:36, 7:40, 7:46, 7:52, 8:00, 8:16, 8:28, 8:36, 8:46, 8:56, 9:06, 9:15, and every 10 minutes until 2:55 P. M., 3:07, 3:17, 3:26, 3:34, 3:41, 3:49, 3:56, 4:04, 4:11, 4:19, 4:26, 4:34, 4:41, 4:49, 4:56, 5:04, 5:11, 5:19, 5:26, 5:34, 5:41, 5:49, 5:56, 6:06, 6:16, 6:37, then as on Weekdays.

Sundays—4:46 A. M., 5:26, 5:41, 6:16, 6:21, 6:36, 6:56, 7:16, 7:37, and every 20 minutes until 11:17 P. M., 11:42, 12:12 A. M., 12:42, 1:17, 2:12, 3:17.

EAST EIGHTH ST. LINE—Leave Kent Road and 8th St.

5

Week-days—5:18 A. M., 5:38, 6:03, 6:22, 6:41, 6:51, 7:00, 7:10, 7:20, 7:28, 7:35, 7:45, 7:55, 8:02, 8:10, 8:20, 8:30, 8:41, 8:52, 9:13, 9:33, 9:53, 10:13, 10:33, 10:53, 11:13, 11:33, 11:53, 12:13 P. M., 12:33, and every 10 minutes until 3:53, 4:08, 4:18, 4:28, 4:38, 4:49, 4:56, 5:08, 5:18, 5:24, 5:33, 5:37, 5:43, 5:48, 5:55, 6:03, 6:10, 6:18, 6:27, 6:38, 6:48, 6:58, 7:07, 7:18, then every 20 minutes until 11:18, 11:43, 11:58, 12:28 A. M., 12:58, 1:23.

Saturdays—5:18 A. M., 5:38, 6:03, 6:22, 6:41, 6:51, 7:00, 7:10, 7:20, 7:30, 7:40, 7:50, 8:00, 8:10, 8:20, 8:30, 8:41, 8:52, 9:13, 9:33, 9:53, 10:13, 10:33, 10:53, 11:13, 11:33, 11:53, 12:13 P. M., 12:33, and every 10 minutes until 3:53, 4:06, 4:18, 4:26, 4:38, 4:51, 4:56, 5:11, 5:18, 5:26, 5:38, 5:46, 5:58, 6:08, 6:18, 6:27, 6:37, 6:48, then as on Weekdays.

Sundays—5:53 A. M., 6:38, 6:58, 7:18, and every 20 minutes until 11:18 P. M., 11:43, 11:58, 12:28 A. M., 12:58, 1:23.

Cars pass 13th Ave. E. and 9th St. four minutes after leaving Kent Road and 8th St.)

To East 8th St. (Time Passing 7th Ave. W.)

Week-days—4:46 A. M., 5:06, 5:31, 5:51, 6:11, 6:24, 6:31, 6:39, 6:46, 6:58, 7:06, 7:16, 7:26, 7:35, 7:45, 7:56, 8:08, 8:20, 8:40, 9:01, 9:22, 9:42, 10:02, 10:22, 10:42, 11:02, 11:22, 11:42, 12:01 P. M., 12:12, 12:22, *12:32, 12:42, *12:52, 1:02, *1:12, 1:22, *1:32, 1:42, *1:52, 2:02, *2:12, 2:22, *2:32, 2:42, *2:52, 3:02, *3:12, 3:22, 3:31, 3:41, 3:51, 4:01, 4:11, 4:21, 4:31, 4:41, 4:49, 4:55, 4:59, 5:03, 5:11, 5:18, 5:26, 5:34, 5:41, 5:51, 6:01, 6:11, 6:21, 6:32, 6:47, 7:07, and every 20 minutes until 11:27, 11:57, 12:27 A. M., 12:57.

Saturdays—4:46 A. M., 5:06, 5:31, 5:51, 6:11, 6:24, 6:31, 6:41, 6:51, 6:58, 7:04, 7:10, 7:23, 7:32, 7:42, 7:56, 8:06, 8:20, 8:42, 9:01, 9:20, 9:42, 10:02, 10:22, 10:42, 11:02, 11:22, 11:42, 12:02 P. M., 12:12, 12:22, *12:32, 12:42, *12:52, 1:02, *1:12, 1:22, *1:32, 1:42, *1:52, 2:02, *2:12, 2:22, *2:32, 2:42, *2:52, 3:02, *3:12, 3:22, 3:31, 3:41, 3:51, 4:01, 4:11, 4:21, 4:31, 4:41, 4:51, 5:01, 5:11, 5:21, 5:31, 5:41, 5:51, 6:01, 6:11, 6:21, 6:32, 6:47, 7:07, then as on Weekdays.

Sundays—5:21 A. M., 6:07, and every 20 minutes until 11:27 P. M., 11:57, 12:27 A. M., 12:57.

FIFTY-SEVENTH AVE. W. LINE—Leave 57th Ave. W. and Medina St.

6

Week-days—6:00 A. M., 6:20, 6:38, 6:56, 7:14, 7:33, 7:53, 8:17, 8:37, 8:53, 9:13, 9:33, 9:53, 10:13, 10:33, 10:53, 11:13, 11:33, 11:53, 12:11 P. M., 12:18, 12:38, 12:58, 1:18, 1:38, 1:58, 2:18, 2:38, 2:58, 3:17, 3:40, 4:02, 4:24, 4:42, 5:07, 5:23, 5:43, 6:13, and every 20 minutes until 10:53, 11:03, 11:18, 11:48, 12:33 A. M., (1:28 to 21st W.).

Saturdays—6:00 A. M., 6:20, 6:38, 6:56, 7:15, 7:35, 7:53, 8:15, 8:37, 8:56, 9:18, and every 20 minutes until 2:58 P. M., 3:17, 3:40, 4:02, 4:25, 4:40, 5:02, 5:25, 5:43, 6:13, then as on Weekdays.

Sundays—6:43 A. M., 7:13, 7:43, 8:13, and every 20 minutes until 10:53 P. M., 11:03, 11:18, 11:48, 12:33 A. M., (1:28 to 21st W.).

To 57th Ave. West (Time Passing 2nd Ave. East)

Week-days—6:16 A. M., 6:36, 7:06, 7:36, 7:56, 8:01, 8:18, 8:41, 9:01, 9:21, 9:41, 10:01, 10:21, 10:41, 11:01, 11:21, 11:39, 11:59, 12:19 P. M., 12:39, 12:59, 1:19, 1:39, 1:59, 2:19, 2:39, 2:59, 3:19, 3:39, 4:01, 4:21, 4:41, 5:02, 5:21, 5:41, 6:04, 6:21, and every 20 minutes until 10:41, 11:11, 11:56, 12:51 A. M.

Saturdays—6:16 A. M., 6:36, 7:06, 7:36, 7:56, 8:16, 8:41, 9:01, 9:21, 9:39, and every 20 minutes until 4:39 P. M., 4:58, 5:18, 5:39, 5:59, 6:21, then as on Weekdays.

Sundays—6:06 A. M., 7:01, and every 20 minutes until 10:41 P. M., 11:11, 11:56, 12:51 A. M.

9

Week-days—5:54 A.M., 6:24, 6:39, 6:54, 7:09, 7:24, 7:39, 7:54, and every 30 minutes until 4:24 P.M., 4:39, 4:54, 5:09, 5:24, 5:39, 5:54, 6:09, 6:24, 6:39, 6:54, then every 30 minutes until 11:54 P.M., 12:28 A. M., 12:50.

Sundays—6:24 A. M., and every 30 minutes until 11:54 P. M., 12:28 A. M., 12:50.

To Duluth Heights (Leave Superior St. and 7th Avenue West)

Week-days—5:35 A.M., 6:05, 6:20, 6:35, 6:50, 7:05, 7:20, 7:35, 8:05, and every 30 minutes until 4:05 P.M., 4:20, 4:35, 4:50, 5:05, 5:20, 5:35, 5:50, 6:05, 6:20, 6:35, then every 30 minutes until 11:35, 12:12 A. M., 12:30.

Sundays—6:05 A. M., and every 30 minutes until 11:35 P. M., 12:12 A. M., 12:30.

HUNTERS PARK—Pass Victoria St. and Woodland Ave., South Bound

10

Week-days—5:23 A. M., 5:53, 6:12, 6:31, 6:51, 7:00, 7:09, 7:17, 7:25, 7:33, *7:38, 7:41, *7:44, *7:47, *7:50, 7:53, *7:58, 8:02, 8:09, 8:19, 8:31, 8:42, 8:52, 9:01, and every 20 minutes until 3:21 P. M., 3:43, 3:53, 3:59, 4:08, 4:19, 4:31, 4:41, 4:47, 4:53, 4:59, 5:06, 5:15, 5:23, 5:33, 5:39, 5:46, 5:53, 6:03, 6:10, 6:16, 6:23, 6:30, 6:37, 6:45, 6:52, 7:03, 7:12, 7:23, then every 20 minutes until 11:03, 11:25, 11:46, 12:08 A. M., 12:33, 1:03, 1:33, 2:13, 4:03.

Saturdays—5:23 A. M., 5:53, 6:12, 6:31, 6:51, 7:00, 7:09, 7:19, 7:29, 7:39, 7:49, 7:59, 8:09, 8:19, 8:31, 8:42, 8:52, 9:01, and every 10 minutes until 3:41 P. M., 4:00, 4:08, 4:18, 4:28, 4:40, 4:45, 4:53, 5:00, 5:11, 5:20, 5:28, 5:34, 5:40, 5:48, 5:53, 6:02, 6:10, 6:16, 6:23, 6:33, 6:38, 6:45, 6:52, 7:03, 7:12, then as on Weekdays.

Sundays—5:33 A. M., 6:23, 7:03, 7:23, 7:43, 8:03, 8:23, *8:43, *8:55, *9:03, *9:15, *9:23, *9:35, *9:43, *9:55, *10:03, *10:15, *10:23, *10:35, 10:43, and every 20 minutes until 11:03 P. M., 11:25, 11:46, 12:08 A. M., 12:33, 1:03, 1:33, 2:13, 4:03.

For "To Hunters Park" See "To Woodland"—(No. 25)

INCLINED RAILWAY—Leave Eighth Street

11

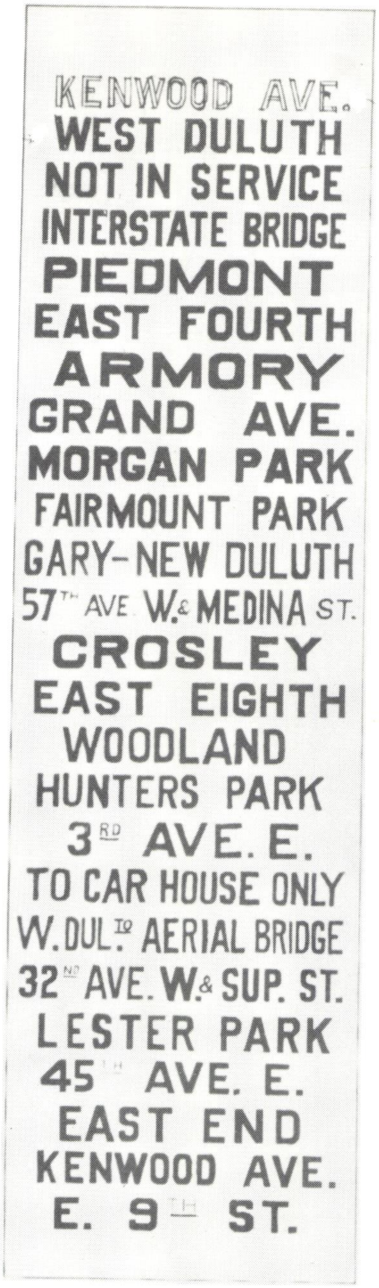
Week-days—5:50 A.M., 6:05, and every 15 minutes until 11:50 P.M., 12:12 A.M., 12:30, 1:00.

Sundays—6:20 A.M., and every 15 minutes until 11:50 P.M., 12:12 A.M., 12:30, 1:00.

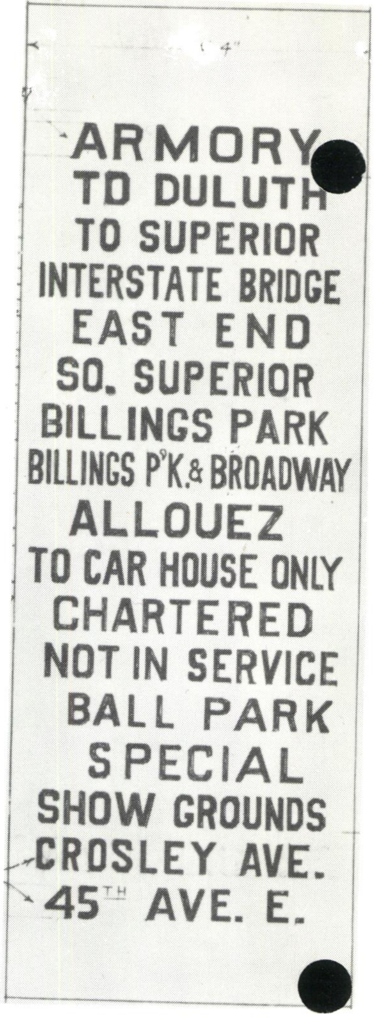
Leave Superior Street

Week-days—5:35 A.M., and every 15 minutes until 11:50 P.M., 12:12 A.M., 12:30.

Sundays—6:05 A.M., and every 15 minutes until 11:50 P.M., 12:12 A.M., 12:30.

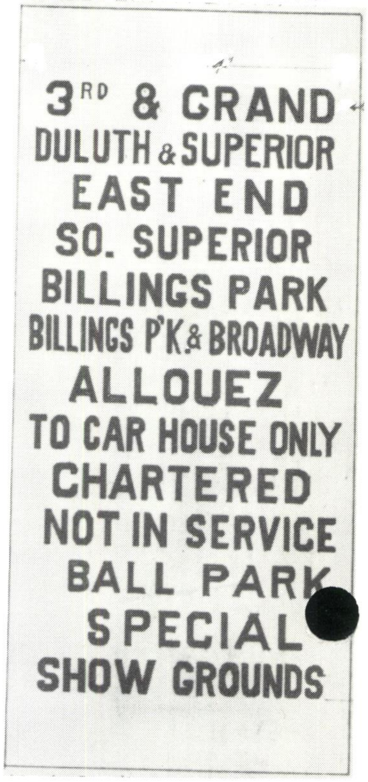


DULUTH DIV. CARS

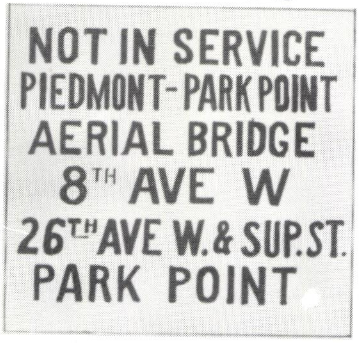


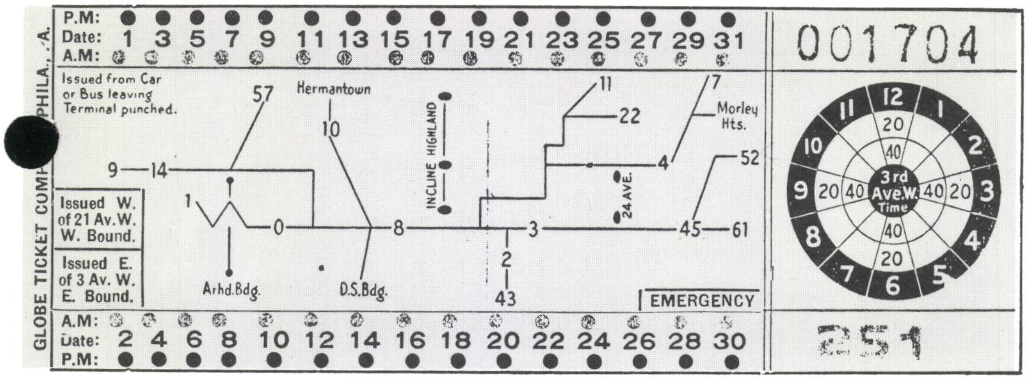
INTERSTATE CARS

SUPERIOR DIV. CARS



PARK POINT BIRNEYS





GLOBE TICKET COMPANY, PHILA., PA.

P.M.: Date: 1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 A.M.:

Issued from Car or Bus leaving Terminal punched.

Issued W. of 21 Av. W. W. Bound.

Issued E. of 3 Av. W. E. Bound.

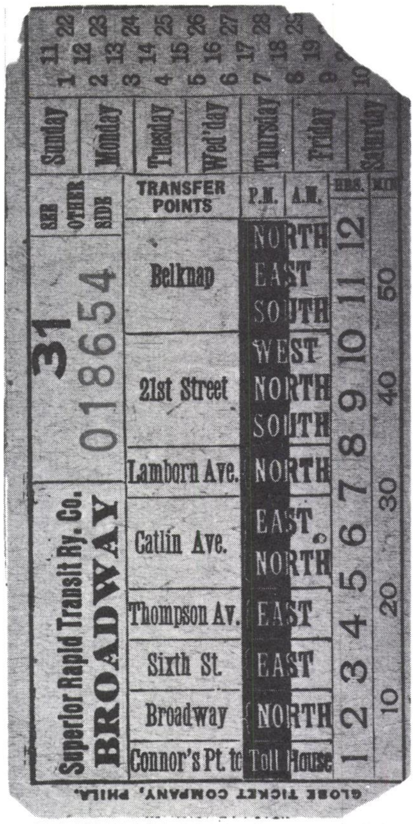
A.M.: Date: 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 P.M.:

001704

EMERGENCY

251

57
Hermantown
10
9
14
1
0
8
3
45
61
2
43
11
22
7
Morley Hts.
4
52
INCLINE HIGHLAND
24 AVE.
Arhd.Bdg.
D.S.Bdg.
12
1
2
3
4
5
6
7
8
9
10
11
20
40
3rd Ave.W. Time



Sunday Monday Tuesday Wed'day Thursday Friday Saturday

SEE OTHER SIDE

31

018654

Superior Rapid Transit Ry. Co.

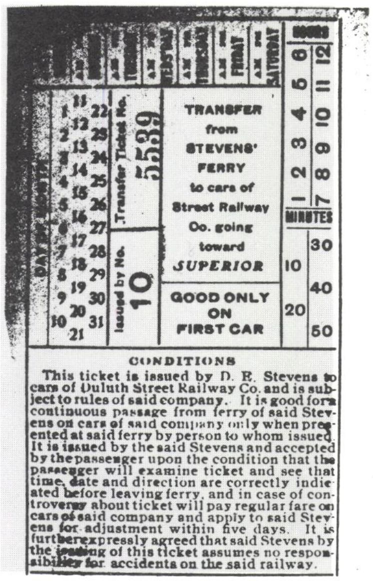
BROADWAY

TRANSFER POINTS	P.M.	A.M.
Belknap	NORTH EAST SOUTH	
21st Street	WEST NORTH SOUTH	
Lamborn Ave.	NORTH	
Catlin Ave.	EAST NORTH	
Thompson Av.	EAST	
Sixth St.	EAST	
Broadway	NORTH	
Connor's Pt. to Toll House		

HRS. 1 2 3 4 5 6 7 8 9 10 11 12 MIN. 10 20 30 40 50

GLOBE TICKET COMPANY, PHILA.

Superior-Duluth transfers through the years of streetcar operations. Stevens Ferry Line transfer, R. R. Andrews; others, Joseph M. Canfield.



DAY OF MONTH 1–31

Transfer Ticket No. 5539

Issued by No. 10

TRANSFER from STEVENS' FERRY to cars of Street Railway Co. going toward SUPERIOR

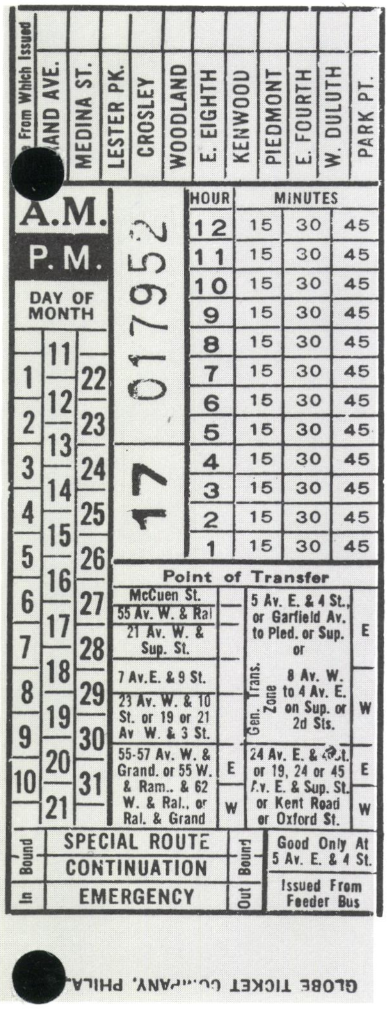
GOOD ONLY ON FIRST CAR

HOURS 1 2 3 4 5 6 7 8 9 10 11 12

MINUTES 10 20 30 40 50

CONDITIONS

This ticket is issued by D. E. Stevens to cars of Duluth Street Railway Co. and is subject to rules of said company. It is good for a continuous passage from ferry of said Stevens on cars of said company only when presented at said ferry by person to whom issued. It is issued by the said Stevens and accepted by the passenger upon the condition that the passenger will examine ticket and see that time, date and direction are correctly indicated before leaving ferry, and in case of controversy about ticket will pay regular fare on cars of said company and apply to said Stevens for adjustment within five days. It is furthermore expressly agreed that said Stevens by the issuing of this ticket assumes no responsibility for accidents on the said railway.



Line From Which Issued

GRAND AVE.

MEDINA ST.

LESTER PK.

CROSLEY

WOODLAND

E. EIGHTH

KENWOOD

PIEDMONT

E. FOURTH

W. DULUTH

PARK PT.

A.M.

P.M.

DAY OF MONTH 1–31

017952

17

HOUR	MINUTES		
12	15	30	45
11	15	30	45
10	15	30	45
9	15	30	45
8	15	30	45
7	15	30	45
6	15	30	45
5	15	30	45
4	15	30	45
3	15	30	45
2	15	30	45
1	15	30	45

Point of Transfer

McCuen St.

55 Av. W. & Ral

21 Av. W. & Sup. St.

7 Av. E. & 9 St.

23 Av. W. & 10 St. or 19 or 21 Av W. & 3 St.

55-57 Av. W. & Grand. or 55 W. & Ram., & 62 W. & Ral., or Ral. & Grand — E W

Gen. Trans. Zone: 5 Av. E. & 4 St., or Garfield Av. to Pied. or Sup. or 8 Av. W. to 4 Av. E. on Sup. or 2d Sts. — E W

24 Av. E. & 4 St. or 19, 24 or 45 Av. E. & Sup. St. or Kent Road or Oxford St. — E W

SPECIAL ROUTE

CONTINUATION

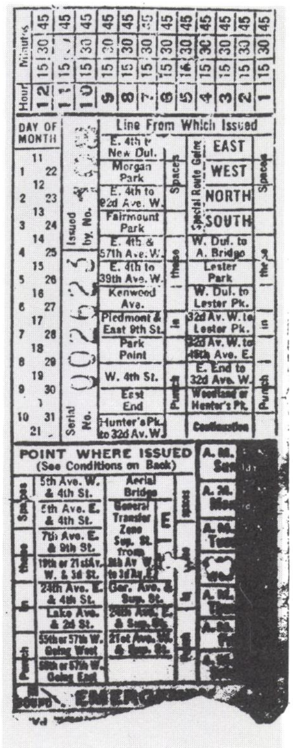
EMERGENCY

In Bound — Out Bound

Good Only At 5 Av. E. & 4 St.

Issued From Feeder Bus

GLOBE TICKET COMPANY, PHILA.



Hour 12 11 10 9 8 7 6 5 4 3 2 1 — Minutes 15 30 45

DAY OF MONTH 1–31

Issued by No.

Serial No. 002623

Line From Which Issued

E. 4th to New Dul.	EAST
Morgan Park	WEST
E. 4th to 22d Ave. W.	NORTH
Fairmount Park	SOUTH
E. 4th & 57th Ave. W.	W. Dul. to A. Bridge
E. 4th to 39th Ave. W.	Lester Park
Kenwood Ave.	W. Dul. to Lester Pk.
Piedmont & East 9th St.	32d Av. W. to Lester Pk.
Park Point	32d Av. W. to 40th Ave. E.
W. 4th St.	E. End to 32d Ave. W.
East End	Woodland or Hunter's Pk.
Hunter's Pk. to 32d Av. W.	Continuation

Special Route Going — Punch in these Spaces

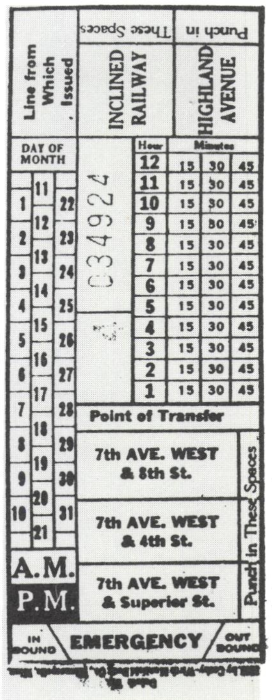
POINT WHERE ISSUED (See Conditions on Back)

5th Ave. W. & 4th St.	Aerial Bridge
5th Ave. E. & 4th St.	General Transfer Zone Sup. St. from 8th Av. W. to 3d Av. E. — E
7th Ave. E. & 9th St.	
19th or 21st Av. W. & 3d St.	
24th Ave. E. & 4th St.	Gar. Ave. & Sup. St.
Lake Ave. & 2d St.	24th Ave. E. & Sup. St.
55th or 57th W. Going West	21st Ave. W. & Sup. St.
55th or 57th W. Going East	

A.M. Sunday · A.M. Monday · A.M. Tuesday · A.M. Wed. · A.M. Thur. · A.M. Fri. · A.M.

Punch in these Spaces

In Bound — EMERGENCY



Punch in These Spaces

Line from Which Issued

INCLINED RAILWAY

HIGHLAND AVENUE

DAY OF MONTH 1–31

034924

Hour	Minutes		
12	15	30	45
11	15	30	45
10	15	30	45
9	15	30	45
8	15	30	45
7	15	30	45
6	15	30	45
5	15	30	45
4	15	30	45
3	15	30	45
2	15	30	45
1	15	30	45

Point of Transfer

7th AVE. WEST & 8th St.

7th AVE. WEST & 4th St.

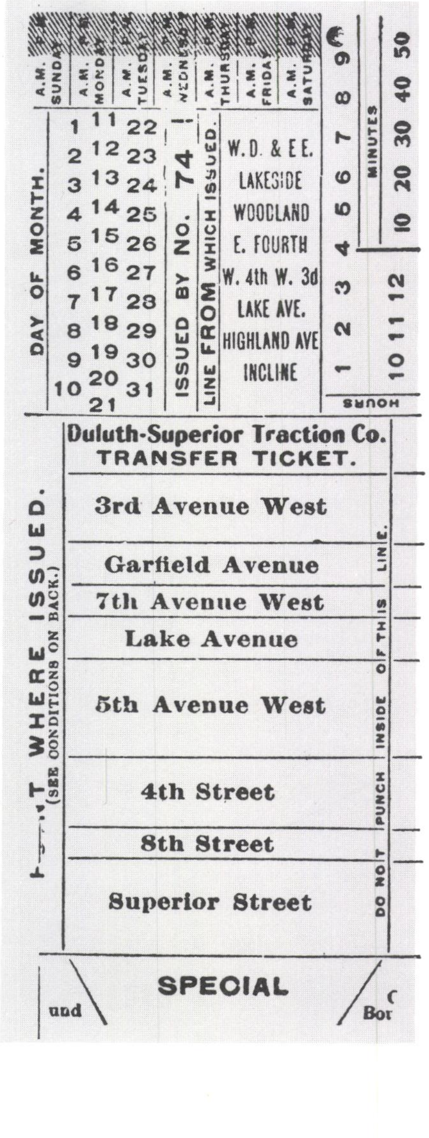
7th AVE. WEST & Superior St.

Punch in These Spaces

A.M.

P.M.

IN BOUND — EMERGENCY — OUT BOUND



A.M. SUNDAY · A.M. MONDAY · A.M. TUESDAY · A.M. WEDNESDAY · A.M. THURSDAY · A.M. FRIDAY · A.M. SATURDAY

DAY OF MONTH 1–31

ISSUED BY NO. 74

LINE FROM WHICH ISSUED

W. D. & E.E.

LAKESIDE

WOODLAND

E. FOURTH

W. 4th W. 3d

LAKE AVE.

HIGHLAND AVE

INCLINE

HOURS 1 2 3 4 5 6 7 8 9 10 11 12

MINUTES 10 20 30 40 50

Duluth-Superior Traction Co.

TRANSFER TICKET.

POINT WHERE ISSUED. (SEE CONDITIONS ON BACK.)

3rd Avenue West

Garfield Avenue

7th Avenue West

Lake Avenue

5th Avenue West

4th Street

8th Street

Superior Street

DO NOT PUNCH INSIDE OF THIS LINE.

SPECIAL

und — Bo

CONVERSION TO RUBBER TIRE OPERATION

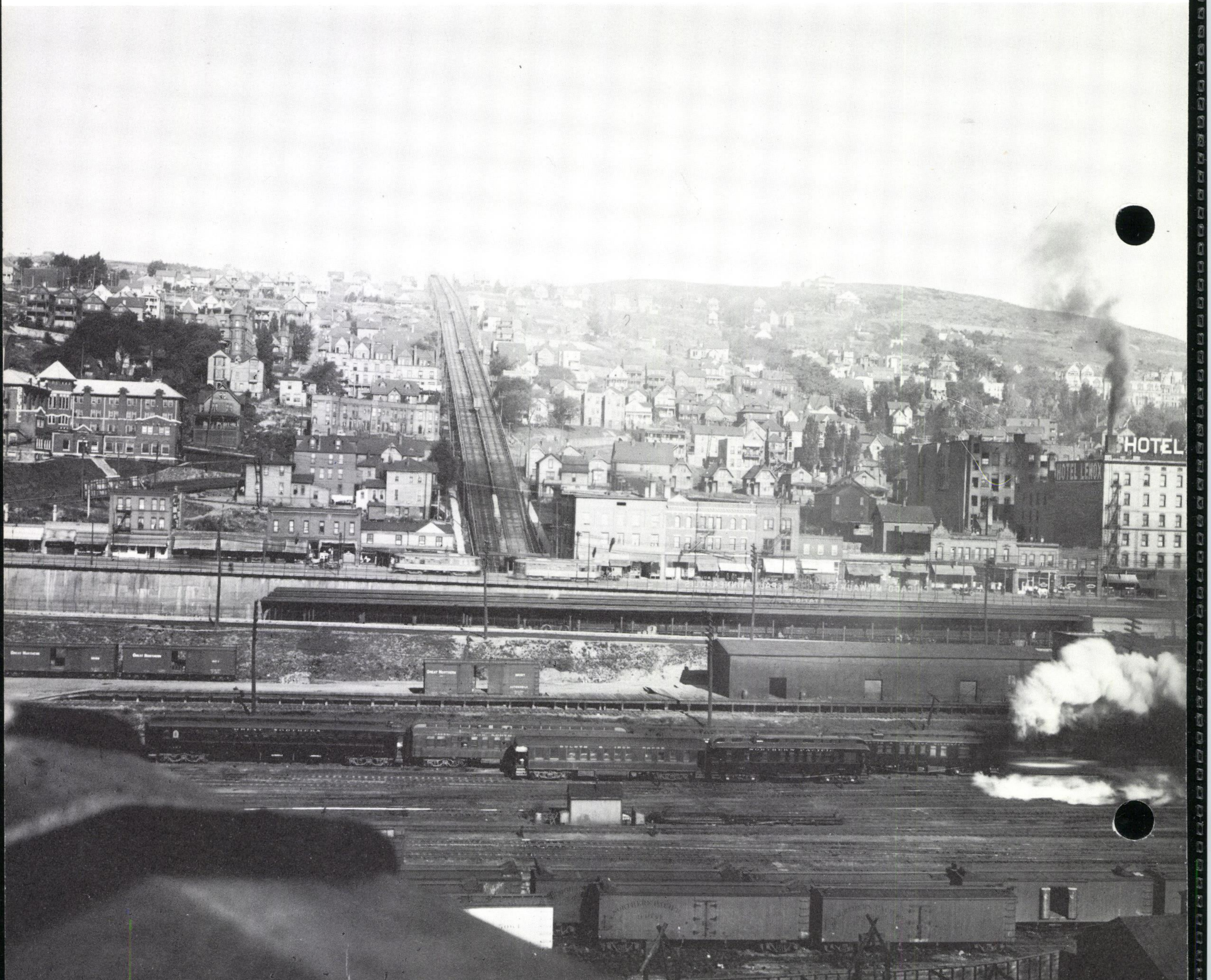
Although major efforts were made in the 1920's to cut costs, problems kept mounting for the company and in 1930 it was again in bankruptcy. It was at this time that abandonments and conversions to buses were begun. The first abandonment was the West 4th Street Shuttle in 1930. The Park Point Line was converted in 1931. All previous bus lines had been opened as feeders to the basic street car system.

In 1931 the first conversions were made in Superior. Buses took over on Broadway, 6th Street Loop, and Tower Avenue between 21st Street and South Superior.

An experiment was made in 1921 to determine if trolley buses could be used. Two Brill trolley buses were placed in service on the portion of the Lester Park Line between 45th Avenue East and 61st Avenue East. The test was considered successful and later extensions made.

The company was reorganized in 1933 as the Duluth-Superior Transit Company. A determined change in policy, coupled with repaving projects in both Superior and Duluth, marked the beginning of a phasing-out of streetcars. Repaving of

A view of the 7th Avenue West Incline in Duluth in 1915. Note the five center platforms for intermediate stops. In the foreground are Union Station and its coach yard. Note the private cars in the yard and the streetcars on Superior Street. Wayne Olsen.



East Superior Street in Duluth in 1934 forced the Company to remove car tracks between 3rd Avenue East and 24th Avenue. Trolley buses were substituted for the balance of the Lester Park Line. At the same time, trolley buses were installed on the Piedmont Line, making a through Lester Park-Piedmont trolley bus route. Due to lack of suitable paved streets, the Crosley Line was retained as a streetcar operation beyond 45th Avenue East. Track on Superior Street between 24th and 45th Avenue East was retained solely for barn access for the Crosley cars.

At the same time, Woodland cars were rerouted via East 4th Street to reach Superior Street.

Following a severe sleet storm on March 5, 1935, the Allouez Line in Superior was abandoned beyond the 24th Avenue East Loop as most of the wires in this section had fallen. On June 5, 1935, the 21st Street and Billings Park Lines in Superior and the Interstate Line were converted to bus operation. This left only the East End Line which was isolated from the balance of the system, including the Superior barn. The wye at Belknap and Catlin Avenue was used to store and service the remaining cars, but this lasted for only 18 days. On June 23, 1935, the East End Line was discontinued, ending all Wisconsin streetcar operations of the company.

In 1936 the Kenwood Line in Duluth was converted and in 1937, the Gary-New Duluth Line was converted beyond the cement plant on Commonwealth Avenue. A new wye was installed to turn the cars at this point.

When the Woodland cars were rerouted in 1934, the route made them circumvent the main retail shopping district. Superior Street merchants complained and agitated until the Company built two blocks of double track in 2nd Avenue East between 2nd and Superior Streets. This segment was opened for service on November 12, 1936. It permitted alternate routing of cars via Superior Street through the business district. The tracks on 2nd Avenue East had a grade of 10.65%, the steepest on the system other than the inclines. The construction of these two blocks of double track did not signal a change in policy, it was merely a temporary expedient until long-range plans could be put into effect.

At this time streetcars were still being operated on Woodland, East 8th Street, East 4th Street, Gary-New Duluth (to the Cement Plant Wye), 57th Avenue West & Medina Street, and West Duluth, plus the Crosley Shuttle and the Duluth Heights Line. The West Duluth Line was discontinued March 13, 1939. All remaining lines, except the Incline and Heights were converted either to bus or trolley bus on July 8, 1939. The Incline and the Duluth Heights Lines stopped running on September 4, 1939, ending street car operation in Duluth.

All street railway equipment was either scrapped or disposed of for non-transportation purposes with two exceptions. One work car was sold to a mining company on the Iron Range. Car 268 was sold to the Duluth, Missabe and Iron Range Railway, which converted it to diesel operation for transporting crews at Proctor, Minnesota. This service lasted until the mid-1960's when the car was scrapped.

Throughout the years, the Duluth Street Railway always had the flavor of a well-run, large-city type streetcar operation. This was due in large part to the early ties with the Twin City Rapid Transit Company, and the philosophies of management personnel, as exemplified by: Tom Lowry, who brought the individual companies together into one system; Herbert Warren who was General Manager from 1893 to 1930; and Robert Thompson who joined the company in 1909 and served as Superintendent of Schedules for many years, later rising to the position of Vice President and General Manager in 1938.

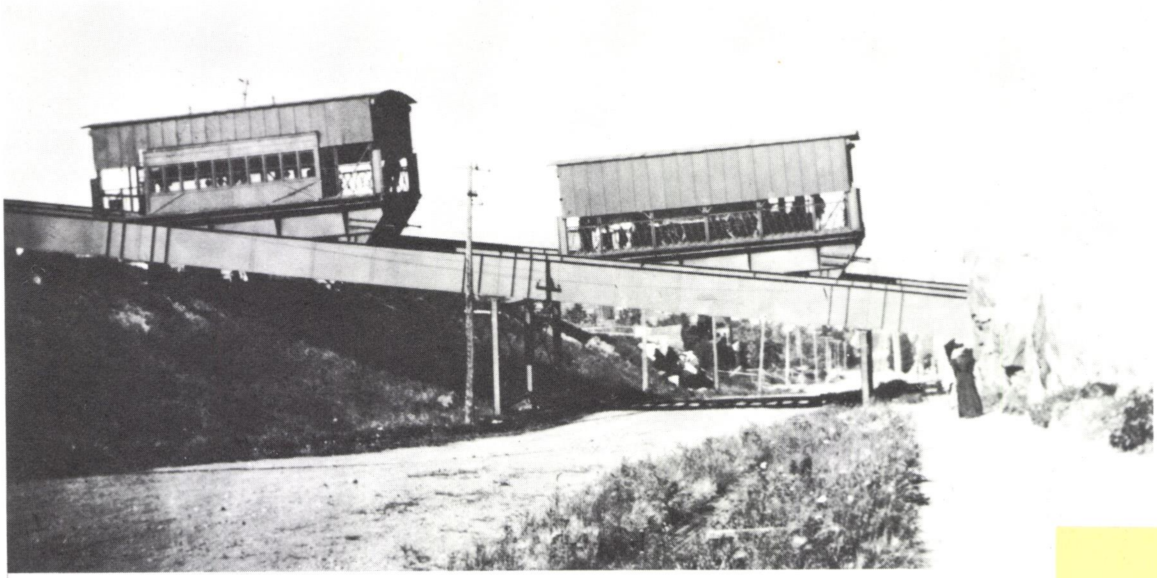
OPERATIONS

Streetcar operations after 1900 were conducted from two primary barns and two small barns. Cars used on lines in Superior were based at 4th Street and Ogden Avenue. Cars used on lines in Duluth were based at 26th Avenue West and Superior Street, with two exceptions: the Duluth Heights cars had a one-track building for inspection and repairs located next to the top of the incline; Park Point cars used a 3-track, 12-car capacity barn at 19th Street and Minnesota Avenue on Park Point.

INCLINE RAILWAYS

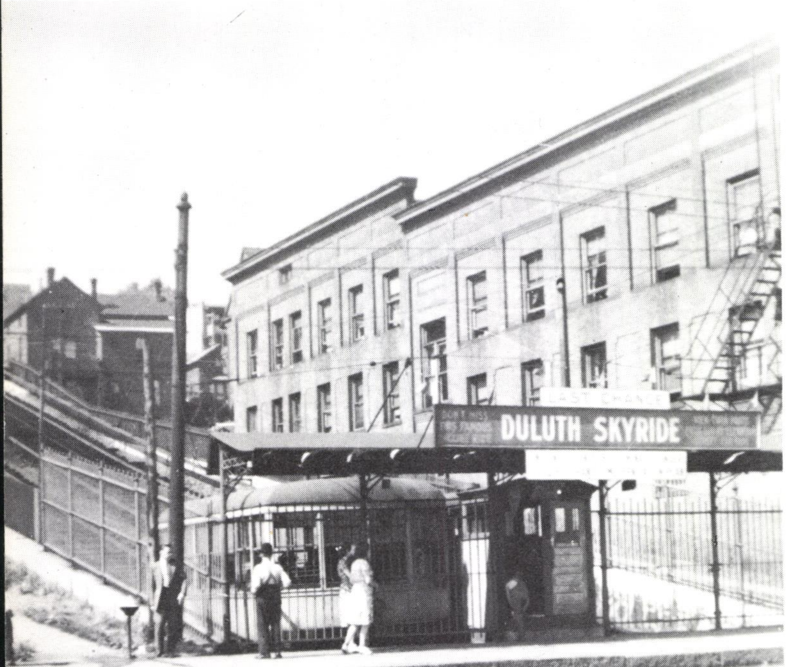
The hilly terrain of Duluth made incline railways a natural means for direct access to semi-isolated areas.

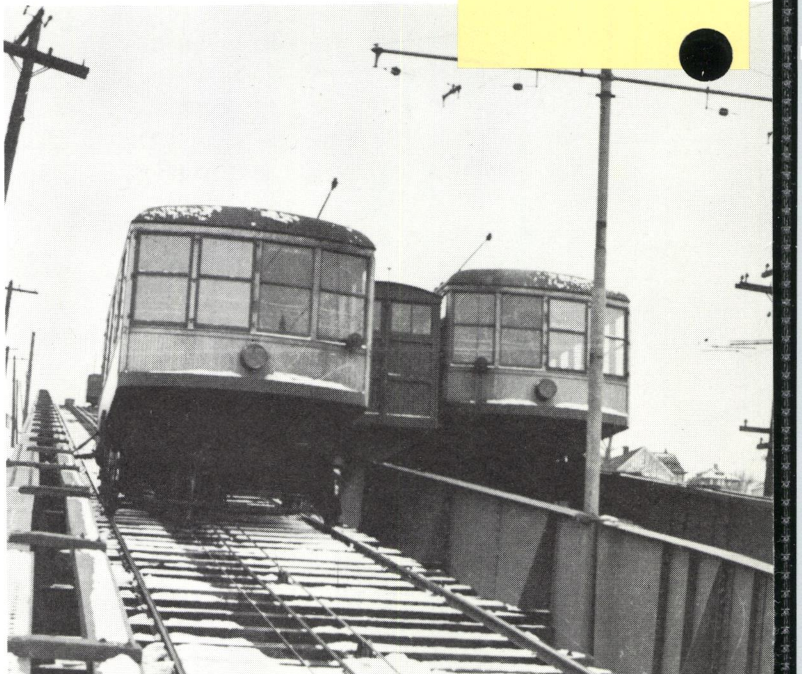
The incline railway for which Duluth was noted was the 7th Avenue West Incline, built in 1891 to connect the isolated Duluth Heights streetcar line with Superior Street. Rising to a height of approximately 500 feet, it was slightly over one-half mile long. The minimum grade was 15%, the maximum about 25%, with the average



ABOVE: **Views of the initial equipment used on the 7th Avenue West Incline fro**
1891-1901. Wayne Olsen. LOWER LEFT: **Both incline cars near the half-way sto**
Note the inverted, U-shaped trolley wire hangers. Jim Kreuzberger. LOWE
RIGHT: **Superior Street terminal of the incline in the spring of 1939. Signs a**
nounce the forthcoming abandonment. Wayne Olsen.

← Lower RIGHT
← Lower LEFT

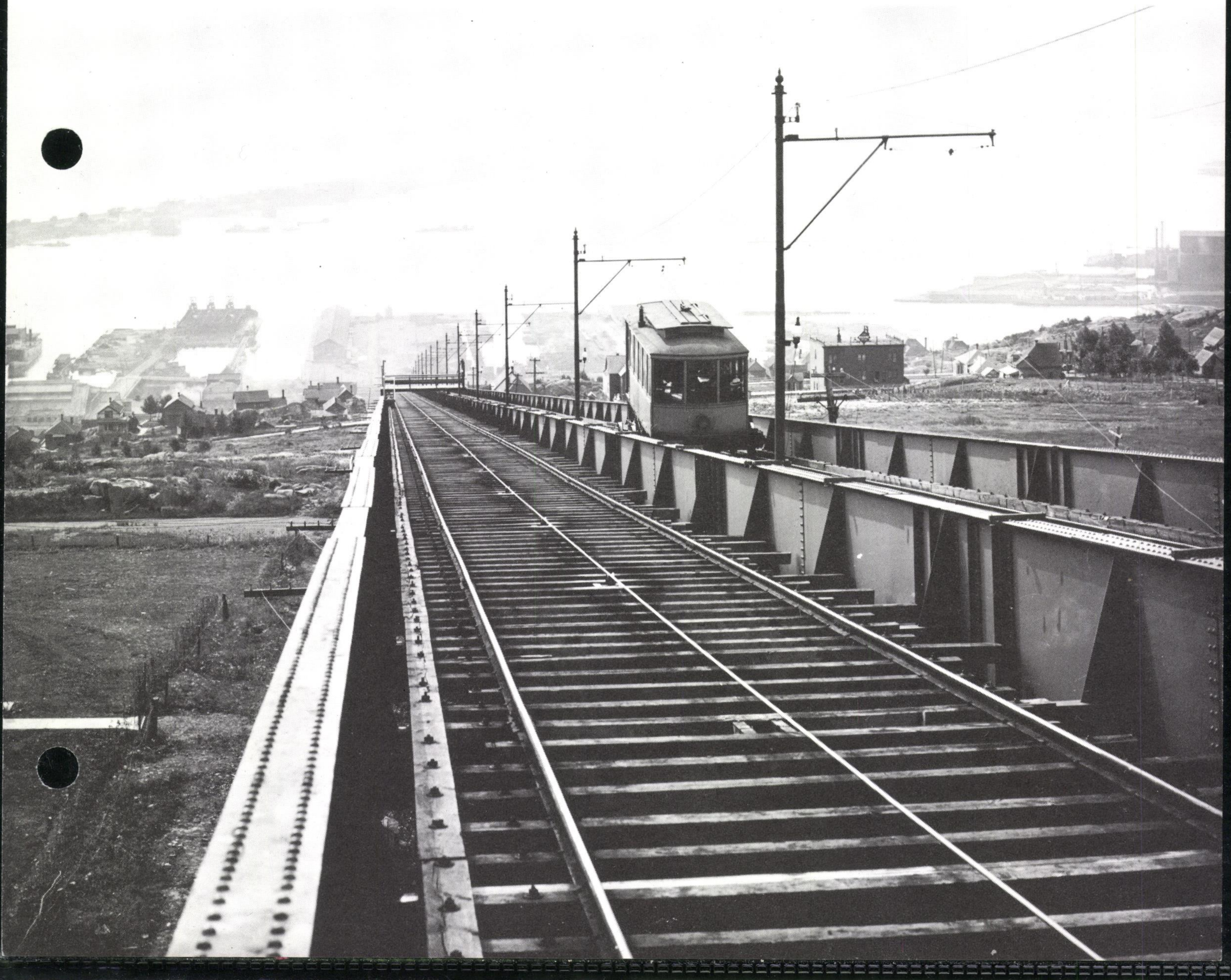




about 18%. Operation was based on the counterbalance principle, with a one-inch steel cable pulling the cars at about six miles per hour. There were five intermediate stations along the incline, spaced so that both cars would be at a station stop at the same time. The cars were controlled by an engineer at the top of the incline, who started the cable only after receiving telephone clearance from conductors on both cars. The track was 10 foot gauge with each car on a single truck built up at the lower end so that the car floor was level.

The two original cars were large enough to accommodate four teams of horses with wagons in addition to a large group of people. A large pavilion for concerts, dances, etc. was built at the top of the incline to generate additional riding. A fire in 1901 destroyed the powerhouse and spread to the pavilion, melting the cable and releasing the car at the top. It raced wildly down the incline, in flames and causing considerable damage. Six months later partial service was restored with a car on one track only, and a counterweight on the other track. The car, number 63, built by the Twin City Rapid Transit, had an ordinary 20-foot streetcar body mounted on a platform and special truck for inclined operation. This makeshift operation continued until 1911 when two new cars, built at the Fort Snelling Shops in St. Paul, designed especially for the incline were put into service. They were also operated by a cable, but with several automatic safety devices added. These two cars, 220 and 221 operated until the incline closed on September 4, 1939.

Incline operations from 1902-1911 consisted of No. 63 operating singly, using the west track, with a counterbalance on the east track. Bridges were built over the east track to gain access to the car. Although cable-operated, the trolley wire was used to supply power for lighting. Wayne Olsen.



EQUIPMENT

The early electric streetcars in Superior were single truck. A total of 38 cars were bought for Superior between 1889 and 1894. Following electrification in Duluth, 69 single-truck cars were purchased in various lots from 1890 to 1893. Most of these were built by LaClede Car Company with a few by Brownell and by Northern.

Double-truck cars were introduced in 1901. These were designed and built by the Twin City Rapid Transit Company at St. Paul and were identical to the streetcars built by the Twin City Company for its own system. This type of car had a body of heavy, well-insulated construction deemed necessary due to the severe winters in Minnesota. TCRT found that they could not purchase satisfactory cars on the outside. Therefore in 1898 they began manufacturing new cars in their own shop.

The Duluth Street Railway, after buying some cars from other builders, also felt that the Twin City design better answered their service requirements. Between 1901 and 1918 Duluth Street Railway bought 130 cars of this type. A drawing of a typical car of this group appears on page 256.

Of these 130 cars, 104 cars were purchased new. An additional 20 cars were purchased in six separate lots after having seen a few weeks to a few months service in the Twin Cities. Increased traffic during World War I created a serious car shortage. The Emergency Fleet Corporation purchased six cars second hand from TCRT in 1918 and leased them to the Duluth Company.

Another six cars were leased from Twin City Rapid Transit during World War I. While in service in Duluth these cars were numbered 279-284. They were returned to TCRT in 1920.

These cars were originally built with gates at the rear end, and a motorman's service door at the front end. The service door was later changed to a narrow front exit door on several cars. Between 1924 and 1930, 73 cars were converted to one-man operation. This was accomplished by installing a wide four-panel door at the front end and modifying the rear door.

Of the 57 cars not converted to one-man operation, one car (No. 264) was destroyed in a wreck in 1917. The others were used primarily for tripper cars and for special services after the base service was taken over by one-man cars. As riding fell off in the Depression and as buses replaced streetcars, these cars were put into dead storage and were scrapped in 1931, 1935 and 1936.

Two cars of the same general design (Nos. 255 and 256) were acquired second hand from TCRT for the Duluth Heights Line. They were eight to nine feet shorter than the other cars. Originally single end, they were rebuilt to double-end cars with doors on only one side before coming to Duluth.

Additional streetcar purchases were six Birney cars in 1919 and five lightweight, single-end cars in 1925 from the Lightweight Noiseless Electric Street Car Company in St. Paul. The single-end Birneys were used primarily on the Kenwood Line. The lightweight cars (Nos. 301-305) were used primarily on the lines in Superior.

While the Duluth Street Railway was essentially a single-end operation system, there were some additional cases of double-end car use. One example was a shuttle service at the outer end of the Allouez Line in September from 1924 to 1929 while the East 4th Street trestle was deemed unsafe for streetcars. Another example was the shuttle service on the Kenwood Line after the main route was converted to buses in 1936. Due to a shortage of buses, a double-end Birney was operated for about six months from 7th Avenue East and East 9th Street to a crossover at Kenwood Avenue and 12th Street.

The West 4th Street Line in Duluth used double-end cars after it was made a separate line in 1919. Two of the early single truck cars, Nos. 52 and 57, were rebuilt for this service.

In 1934, Car 163 was rebuilt into a double-end car to provide a shuttle service on the Crosley Line after the main route had been converted to trolley bus operation.

A distinctive feature of the Duluth Street Railway cars was the destination signs which were white background with black lettering in contrast to the more widespread use of white on black background. The Duluth practice for signs was generally the same as used by the Twin City Rapid Transit. Streetcar terminal points in Superior were designated by letters, while terminal points in Duluth were designated by numbers.

DULUTH STREET RAILWAY CO.

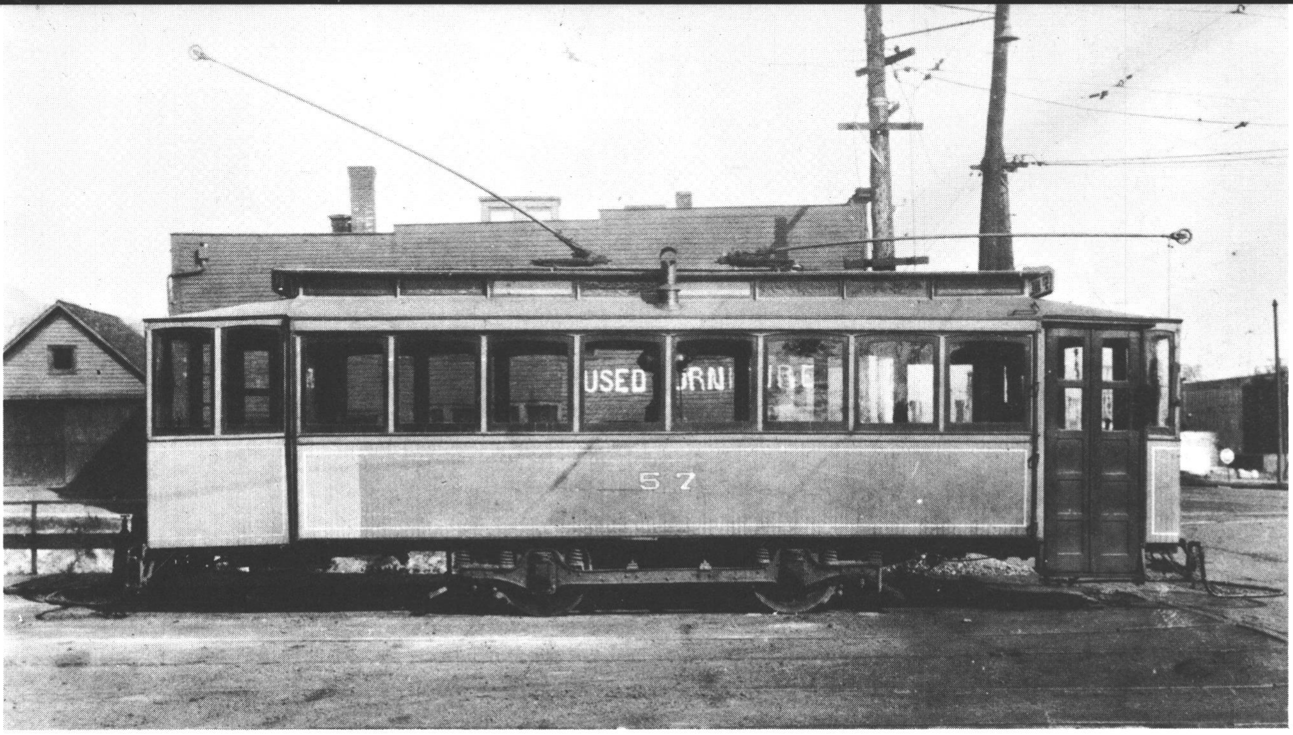
CAR NUMBER	BUILDER	BUILT	TRUCKS	MOTORS	CONTROL	WEIGHT	SEATS	LENGTH OVERALL	WIDTH OVERALL	HEIGHT OVER ROOF	CONVERTED TO 1-MAN	BODY SOLD	REMARKS Data: Wayne C. Olsen
SINGLE TRUCK PASSENGER EQUIPMENT													
1-18													OLD HORSE CARS OF WHICH NO RECORDS HAVE BEEN KEPT.
19-30	LACLEDE	'90	McGUIRE	2-T.H.F30									19 SOLD TO GRAND FORKS TRANSIT CO. 23 BURNED AT INCLINE. 25 & 28 TO DULUTH BELT LINE RY. BODY OF 30 IN CANAL 9-17-93, TRUCK & MOTORS PLACED UNDER 92.
31-37	LACLEDE	'91	BEMIS	2-SRG30									33 & 36 SOLD TO ST. CLOUD ST. RY. CO. 34 BURNED AT WOODLAND 11-16-94.
38-43	LACLEDE	'91	McGUIRE	2-SRG30									39 & 41 SOLD TO DULUTH BELT LINE RY.5-7-15. 43 BURNED AT HIGHLAND 1-29-11. 42 PRIVATE CAR NAMED "ST. LOUIS", TRUCKS & MOTORS PLACED UNDER FLAT CAR 145.
45, 46	NORTHERN	'91	McGUIRE	2-SRG30									46 SOLD TO ABERDEEN RY. CO.
47-62	LACLEDE	'92	McGUIRE	2-SRG30	K2								49 SCRAPPED 7-17, TRUCKS & MOTORS PLACED UNDER FLAT 144. 51 CONVERTED TO TOWER CAR 1892. 50 SCRAPPED 7-17. 52 REMODELED TO DOUBLE END PAY ENTER CAR 6-22-19. 57 REMODELED TO DOUBLE END PAY ENTER CAR 5-16-19. 61 SCRAPPED 7-17, TRUCK & MOTORS PLACED UNDER FLAT 143. 62 CONVERTED TO SUPPLY CAR IN 1915, OUT OF SERVICE 9-20.
63	TCRT	'01	TCRT	4-GE67									INCLINE CAR, MOTORS LATER PLACED UNDER FLAT 64.
68-87	LACLEDE	'93	RMKS.	RMKS.	K2								68, 71, 74, 75, 77 HAD BALTIMORE TRUCK, REST HAD McGUIRE TRUCK. 68, 71, 73 TO 79 HAD 2-WH3 MOTORS, REST HAD 2-SRG30 MOTORS. 69, 71, 76, 77 SOLD TO GRANITE CITY RY. CO. 6-11-10. 74 BURNED 7-9-14. 85 SCRAPPED 4-17, TRUCK & MOTORS PLACED UNDER FLAT 142. 87 WRECKED ON 3RD ST. 12-09.
89, 90	BROWNELL	'91	BROWNELL	2-									DESTROYED AT WOODLAND.
91-94	BROWNELL	'91	BROWNELL	2-									OPEN MOTORS. 92 HAD McGUIRE TRUCK & 2-F30 MOTORS. SOLD TO INTERSTATE TRACTION CO. (DULUTH).
99	PULLMAN		PULLMAN										RECORDS INDICATE CARS 99 TO 109 HAD "NO MOTORS WHEN ROADS WERE CONSOLIDATED."
100	PULLMAN		PULLMAN										PRIVATE CAR.
101, 102	STEPHENSON												101 SOLD TO NORMAL SCHOOL (WAITING STATION) 102 SOLD TO GRANK FORKS TRACTION CO.
103-109	PULLMAN												104 SOLD TO LAKESIDE CLUB (WAITING STATION) 105, 108 & 109 SOLD TO ST. CLOUD ST. RY.
110	NORTHERN		McGUIRE	2-WP30									SOLD TO INTERSTATE TRACTION CO. (DULUTH).
113-119	NORTHERN		McGUIRE	2-WP30									115 SOLD TO ABERDEEN RY. CO. 9-1-10. 113 & 119 SOLD TO ABERDEEN RY. CO. 10-1-10. 116 SOLD TO ABERDEEN RY. CO. 5-25-11. 117 SOLD TO INTERSTATE TRACTION CO.
120-124	ST. LOUIS		McGUIRE	2-WP30									120 SOLD TO ABERDEEN RY. CO. 10-1-10. 122 SOLD TO INTERSTATE TRACTION CO. 10-5-10.
125-136	AMERICAN	'93 '94	McGUIRE	2-WP30									125, 126, 129 SOLD TO ABERDEEN RY. CO. 10-1-10. 127 SOLD TO ABERDEEN RY. CO. 5-25-10. 131 CONVERTED TO SUPPLY CAR 9-10-20. 136 WRECKED 5-1-13
220, 221	TCRT	'11	TCRT	2-GE210		25,000	26	24'0"					INCLINE CARS. SOLD TO W.E. IRON & METAL 9-39.
295-297	AMERICAN	'19	BRILL 78MI	2-GE258C	K63B	13,300	35	28'0"	7'8"	9'10"		'38	SINGLE END BIRNEYS.
298-300	AMERICAN	'19	BRILL 78MI	2-GE258C	K63B	13,900	32	28'0"	7'8"	9'10"		'38	DOUBLE END BIRNEYS.
DOUBLE TRUCK PASSENGER EQUIPMENT													
95	NORTHERN	'92	BEMIS	2-SRG30									OPEN MOTOR. TRUCKS & MOTORS PLACED UNDER 67.
151	TCRT	'01	BRILL 27	4-GE67	K6	39,700	45	43'2½"				'31	
152	TCRT	'01	BRILL 27	4-GE67	K28B	39,700	45	43'2½"				'31	
153	TCRT	'01	BRILL 27	4-GE67	K6	39,700	45	43'2½"				'31	
154	TCRT	'01	BRILL 27	4-GE67	K28B	39,700	45	43'2½"				'31	
155	TCRT	'01	BRILL 27	4-GE67	K6	39,700	45	43'2½"				'31	
156	TCRT	'01	BRILL 27	4-GE67	K6	39,700	45	43'2½"				'31	
157	TCRT	'01	BRILL 27	4-GE67	K6	39,700	45	43'2½"				'31	
158	TCRT	'01	BRILL 27	4-GE67	K6	39,700	45	43'2½"				'31	
159	TCRT	'01	BRILL 27	4-GE67	K6	39,700	45	43'2½"				'31	
160	TCRT	'01	BRILL 27	4-GE67	K6	39,700	45	43'2½"				'31	
161	TCRT	'01	BRILL 27	4-GE67	K6	39,700	45	43'2½"				'31	
162	TCRT	'01	BRILL 27	4-GE67	K6	39,700	45	43'2½"				'31	
163	TCRT	'04	BRILL	4-GE70	K28A	49,200	50	45'2"	8'9"	11'5"	8-24		CONVERTED TO DOUBLE END 10-34, SEATING CAP. 44. RETIRED 1939.
164	TCRT	'04	BRILL	4-GE70	K28A	49,200	50	45'2"	8'9"	11'5"	8-25	'37	
165	TCRT	'04	BRILL	4-GE70	K28A	49,200	50	45'2"	8'9"	11'5"	8-24	'37	
166	TCRT	'04	BRILL	4-GE70	K28A	49,200	50	45'2"	8'9"	11'5"	8-24	'38	
167	TCRT	'04	BRILL	4-GE70	K28A	49,200	50	45'2"	8'9"	11'5"	8-25	'37	
168	TCRT	'04	BRILL	4-GE70	K28A	49,200	50	45'2"	8'9"	11'5"	1-26	'38	
169	TCRT	'04	BRILL	4-GE70	K28A	49,200	50	45'2"	8'9"	11'5"	1-26		WRECKED IN SUPERIOR AND RETIRED 1-6-27.

ABBREVIATIONS: TCRT - TWIN CITY RAPID TRANSIT CO.
DSR - DULUTH STREET RAILWAY CO.

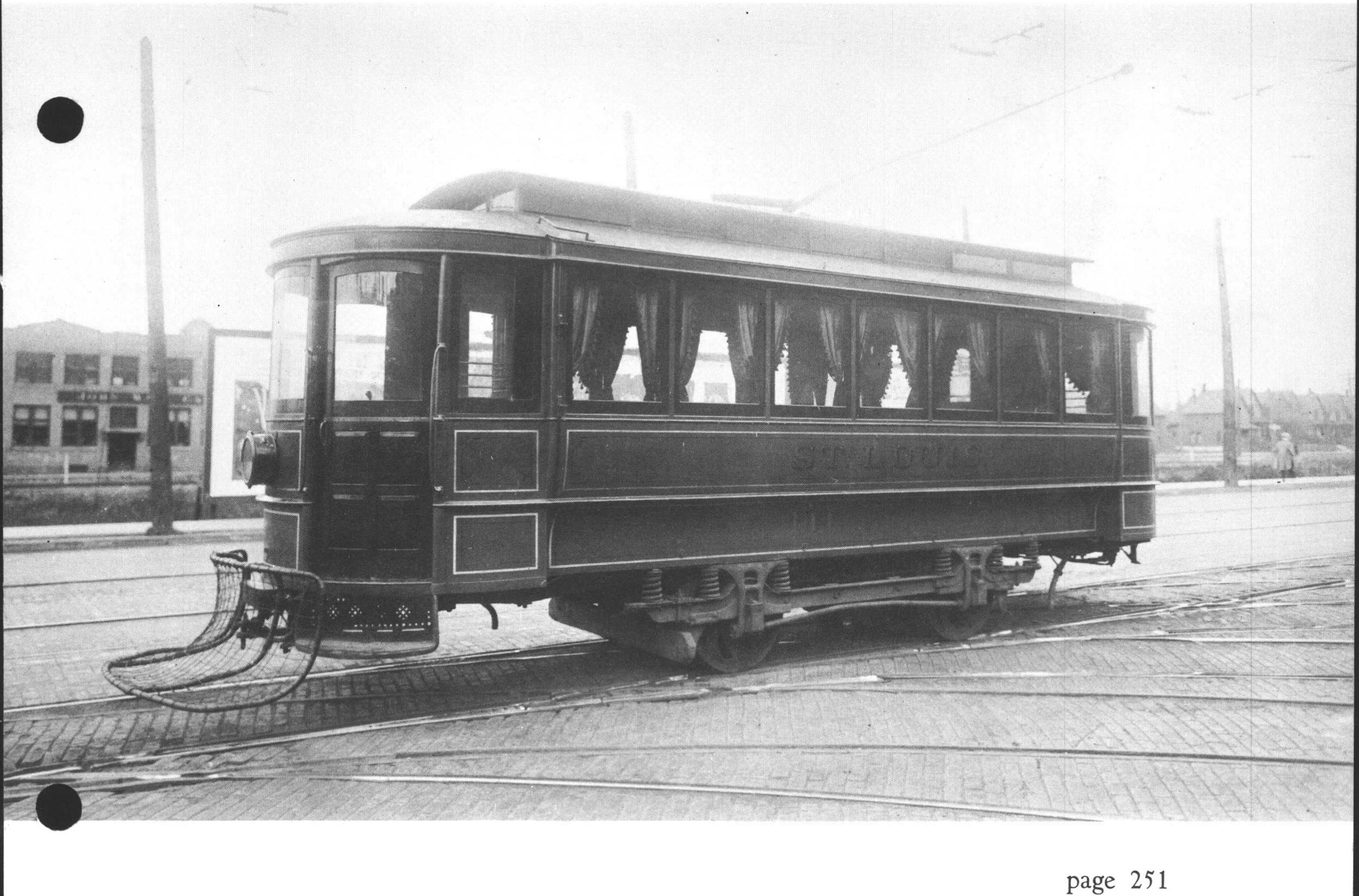
CAR NUMBER	BUILDER	BUILT	TRUCKS	MOTORS	CONTROL	WEIGHT	SEATS	LENGTH OVERALL	WIDTH OVERALL	HEIGHT OVER ROOF	CONVERTED TO 1-MAN	BODY SOLD	REMARKS
170	TCRT	'04	BRILL	4-GE70	K28A	49,200	50	45'2"	8'9"	11'5"	2-28	'39	
171	TCRT	'04	BRILL	4-GE70	K28A	49,200	50	45'2"	8'9"	11'5"	2-28		RETIRED 1939.
172	TCRT	'04	BRILL	4-GE70	K28A	49,200	50	45'2"	8'9"	11'5"	3-28	'39	
173	TCRT	'04	BRILL	4-GE70	K28A	49,200	50	45'2"	8'9"	11'5"	3-28	'39	
174	TCRT	'04	BRILL	4-GE70	K28A	49,200	50	45'2"	8'9"	11'5"	4-28	'39	
175	TCRT	'04	BRILL	4-GE70	K28A	49,200	50	45'2"	8'9"	11'5"	4-28	'39	
176	TCRT	'04	BRILL	4-GE70	K28A	49,200	50	45'2"	8'9"	11'5"	5-28	'39	
177	TCRT	'04	BRILL	4-GE70	K28A	49,200	50	45'2"	8'9"	11'5"	6-26	'38	
178	TCRT	'04	BALDWIN #1	4-GE70	K28B	49,200	50	45'2"	8'8½"	11'6"	5-28	'39	FORMER TCRT 1043.
179	TCRT	'05	BALDWIN #1	4-GE70	K28B	49,200	50	45'2"	8'8½"	11'6"	5-28	'39	FORMER TCRT 1108.
180	TCRT	'05	BALDWIN #1	4-GE70	K28B	49,200	50	45'2"	8'8½"	11'6"	6-28	'39	FORMER TCRT 1109.
181	TCRT	'05	BALDWIN #1	4-GE70	K28B	49,200	45	45'2"	8'8½"	11'6"		'35	FORMER TCRT 1110.
182	TCRT	'05	BALDWIN #1	4-GE70	K28B	49,200	45	45'2"	8'8½"	11'6"		'35	FORMER TCRT 1111.
183	TCRT	'06	BALDWIN #5	4-GE70		51,520	45	46'9½"				'35	
184	TCRT	'06	BALDWIN #5	4-GE70		51,520	45	46'9½"					RETIRED 1935.
185	TCRT	'06	BALDWIN #5	4-GE70		51,520	45	46'9½"				'35	
186	TCRT	'06	BALDWIN #5	4-GE70		51,520	45	46'9½"				'35	
187	TCRT	'06	BALDWIN #5	4-GE70		51,520	45	46'9½"				'35	
188	TCRT	'06	BALDWIN #5	4-GE70		51,520	45	46'9½"					RETIRED 1935.
189	TCRT	'06	BALDWIN #5	4-GE70		51,520	45	46'9½"				'35	189 to 196 HAD TURNSTILE INSTALLED FOR PAY-ENTER SERVICE 7-22-20.
190	TCRT	'06	BALDWIN #5	4-GE70		51,520	45	46'9½"				'35	
191	TCRT	'06	BALDWIN #5	4-GE70		51,520	45	46'9½"				'35	
192	TCRT	'06	BALDWIN #5	4-GE70		51,520	45	46'9½"				'35	
193	TCRT	'06	BALDWIN #5	4-GE70		51,520	45	46'9½"				'35	
194	TCRT	'06	BALDWIN #5	4-GE70		51,520	45	46'9½"				'35	
195	TCRT	'06	BALDWIN #5	4-GE70		51,520	45	46'9½"				'35	
196	TCRT	'06	BALDWIN #5	4-GE70		51,520	45	46'9½"				'35	
197	TCRT	'06	BALDWIN #5	4-GE70		51,520	45	46'9½"				'35	
198	TCRT	'08	BALDWIN #5	4-GE213	K37A	47,900	50	46'7"			5-30	'35	
199	TCRT	'08	BALDWIN #5	4-GE213	K37A	47,900	50	46'7"			5-30	'39	
200	TCRT	'08	BALDWIN #5	4-GE213	K37A	47,900	50	46'7"			4-30	'39	
201	TCRT	'08	BALDWIN #5	4-GE213	K37A	47,900	50	46'7"			5-30	'39	
202	TCRT	'08	BALDWIN #5	4-GE213	K37A	47,900	50	46'7"			4-30	'39	
203	TCRT	'08	BALDWIN #5	4-GE213	K37A	47,900	50	46'7"			3-30	'39	
204	TCRT	'09	T.C. #5	4-GE213	K37A	48,000	50	46'8"			3-30	'39	
205	TCRT	'09	T.C. #5	4-GE213	K37A	48,000	50	46'8"			8-30	'39	
206	TCRT	'09	T.C. #5	4-GE213	K37A	48,000	50	46'8"			5-30	'40	
207	TCRT	'09	T.C. #5	4-GE213	K37A	48,000	50	46'8"			8-30	'39	
208	TCRT	'09	T.C. #5	4-GE213	K37A	48,000	50	46'8"			10-29	'39	
209	TCRT	'09	T.C. #5	4-GE213	K37A	48,000	50	46'8"			6-30	'39	
210	TCRT	'09	T.C. #5	4-GE213	K37A	48,000	50	46'8"			10-28	'40	
211	TCRT	'09	T.C. #5	4-GE213	K37A	48,000	50	46'8"			11-28	'39	
212	TCRT	'09	T.C. #5	4-GE213	K37A	48,000	50	46'8"			11-28	'39	
213	TCRT	'09	T.C. #5	4-GE213	K37A	48,000	50	46'8"			9-28	'40	
214	TCRT	'09	T.C. #5	4-GE213	K37A	48,000	50	46'8"			8-30	'40	
215	TCRT	'10	T.C. #6	4-GE216	K37	46,200	50	46'8"			9-28	'39	
216	TCRT	'10	T.C. #6	4-GE216	K37	46,200	50	46'8"			9-28	'39	
217	TCRT	'10	T.C. #6	4-GE216	K37	46,200	50	46'8"			12-28	'40	
218	TCRT	'10	T.C. #6	4-GE216	K37	46,200	50	46'8"			12-28	'39	
219	TCRT	'10	T.C. #6	4-GE216	K37	46,200	50	46'8"			9-28		SCRAPPED IN YARD 11-40.
222	TCRT	'11	T.C. #6	4-GE216		46,200	45	46'8"				'36	EXCHANGED TRUCKS & MOTORS WITH PLOW 66 IN 12-17.
223	TCRT	'11	T.C. #6	4-GE216		46,200	50	46'8"			3-29	'40	
224	TCRT	'11	T.C. #6	4-GE216		46,200	50	46'8"			12-29	'39	
225	TCRT	'11	T.C. #6	4-GE216		46,200	50	46'8"			10-29	'39	

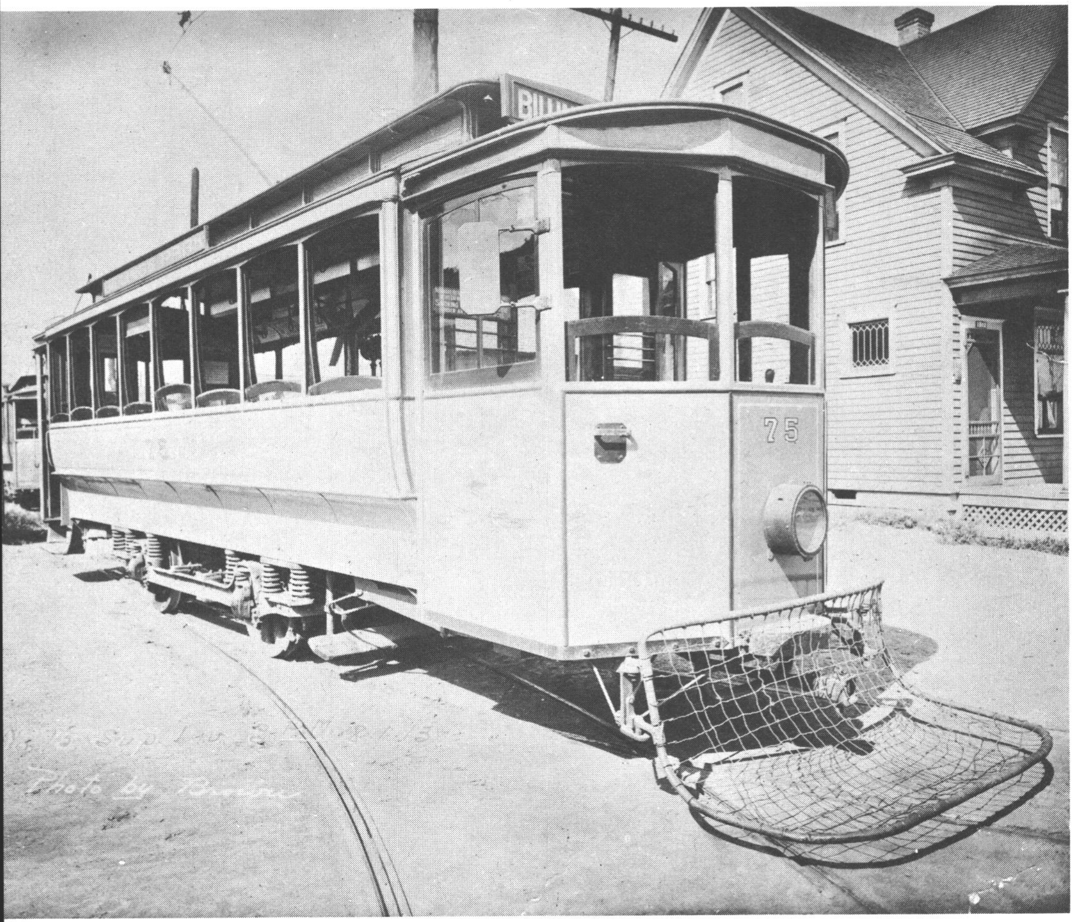
CAR NUMBER	BUILDER	BUILT	TRUCKS	MOTORS	CONTROL	WEIGHT	SEATS	LENGTH OVERALL	WIDTH OVERALL	HEIGHT OVER ROOF	CONVERTED TO 1-MAN	BODY SOLD	REMARKS
226	TCRT	'11	T.C. #6	4-GE216		46,200	50	46'8"			6-29	'40	
227	TCRT	'11	T.C. #6	4-GE216		46,200	50	46'8"			1-30	'40	
228	TCRT	'11	T.C. #6	4-GE216		46,200	50	46'8"			12-29	'40	
229	TCRT	'11	T.C. #6	4-GE216		46,200	50	46'8"			9-29	'40	
230	TCRT	'11	T.C. #6	4-GE216		46,200	50	46'8"			12-29	'39	
231	TCRT	'11	T.C. #6	4-GE216		46,200	50	46'8"			7-29	'40	
232	TCRT	'11	T.C. #6	4-GE216		46,200	50	46'8"			6-29	'39	
233	TCRT	'11	T.C. #6	4-GE216		46,200	45	46'8"				'36	
234	TCRT	'11	T.C. #6	4-GE216		46,200	50	46'8"			2-29	'39	
235	TCRT	'11	T.C. #6	4-GE216		46,200	45	46'8"				'36	
236	TCRT	'11	T.C. #6	4-GE216		46,200	50	46'8"			6-30	'39	
237	TCRT	'11	T.C. #6	4-GE216		46,200	50	46'8"			4-29	'39	
238	TCRT	'11	T.C. #6	4-GE216		46,200	50	46'8"	9'2½"	11'5"	12-29	'40	FORMER TCRT 1482.
239	TCRT	'11	T.C. #6	4-GE216		46,200	50	46'8"	9'2½"	11'5"	8-29	'40	FORMER TCRT 1483 .
240	TCRT	'11	T.C. #6	4-GE216		46,200	50	46'8"	9'2½"	11'5"	2-30		SCRAPPED IN YARD 11-40. FORMER TCRT 1484.
241	TCRT	'11	T.C. #6	4-GE216		46,200	50	46'8"	9'2½"	11'5"	2-29	'39	FORMER TCRT 1485. EXCHANGED TRUCKS & MOTORS WITH PLOW 139 IN 12-17.
242	TCRT	'12	T.C. #8	4-GE216	K37C	43,700	50	46'8"			10-29	'40	
243	TCRT	'12	T.C. #8	4-GE216	K37C	43,700	50	46'8"			7-29	'39	
244	TCRT	'12	T.C. #8	4-GE216	K37C	43,700	50	46'8"			10-28	'40	
245	TCRT	'12	T.C. #8	4-GE216	K37C	43,700	50	46'8"			3-29	'39	
246	TCRT	'12	T.C. #8	4-GE216	K37C	43,700	50	46'8"			10-29	'40	
247	TCRT	'12	T.C. #8	4-GE216	K37C	43,700	50	46'8"			4-29	'40	
248	TCRT	'12	T.C. #8	4-GE216	K37C	43,700	50	46'8"			7-29		RETIRED 1939, BURNED IN YARD.
249	TCRT	'12	T.C. #8	4-GE216	K37C	43,700	50	46'8"			5-29	'40	
250	TCRT	'12	T.C. #8	4-GE216	K37C	43,700	50	46'8"			4-29	'39	
251	TCRT	'12	T.C. #8	4-GE216	K37C	43,700	50	46'8"			7-29	'40	
252	TCRT	'12	T.C. #8	4-GE216	K37C	43,700	50	46'8"	9'1"	11'5"	3-29	'39	FORMER TCRT 1564.
253	TCRT	'12	T.C. #8	4-GE216	K37C	43,700	50	46'8"	9'1"	11'5"	8-29	'40	FORMER TCRT 1565.
254	TCRT	'12	T.C. #8	4-GE216	K37C	43,700	50	46'8"	9'1"	11'5"	5-29	'39	FORMER TCRT 1566.
255	TCRT	'01	BRILL	4-GE67	K6	40,200	34	37'7"	8'4"	11'6"			FORMER TCRT 868. RETIRED 1939. REBUILT BY TCRT TO DOUBLE-END WHEN SOLD TO DSR 1913.
256	TCRT	'01	BRILL	4-GE67	K6	40,200	34	37'7"	8'4"	11'6"			FORMER TCRT 869. RETIRED 1939. REBUILT BY TCRT TO DOUBLE-END WHEN SOLD TO DSR 1913.
257	TCRT	'14	T.C. #9	4-GE200	K43F2	41,700	45	46'8"				'36	
258	TCRT	'14	T.C. #9	4-GE200	K43F2	41,700	45	46'8"				'36	
259	TCRT	'14	T.C. #9	4-GE200	K43F2	41,700	45	46'8"				'36	
260	TCRT	'14	T.C. #9	4-GE200	K43F2	41,700	45	46'8"				'36	
261	TCRT	'14	T.C. #9	4-GE200	K43F2	41,700	45	46'8"				'35	
262	TCRT	'14	T.C. #9	4-GE200	K43F2	41,700	45	46'8"				'36	TURNSTILE INSTALLED FOR PAY-ENTER SERVICE ON 5-26-20.
263	TCRT	'14	T.C. #9	4-GE200	K43F2	41,700	45	46'8"	9'1"	11'5"		'36	FORMER TCRT 1789.
264	TCRT	'14	T.C. #9	4-GE200	K43F2	41,700	45	46'8"	9'1"	11'5"			FORMER TCRT 1790, WRECKED 9-21-17 IN SUPERIOR(HILL AVE & 13TH ST.CST PM&O CROSSING)
265	TCRT	'14	T.C. #9	4-GE200	K43F2	41,700	50	46'8"	9'1"	11'5"	9-29	'39	FORMER TCRT 1791.
266	TCRT	'14	T.C. #9	4-GE200	K43F2	41,700	50	46'8"	9'1"	11'5"	2-30	'39	FORMER TCRT 1792.
267	TCRT	'15	T.C. #9	4-GE200	K43F2	41,700	45	46'8"	9'1"	11'5"		'36	FORMER TCRT 1724.
268	TCRT	'15	T.C. #9	4-GE200	K43F2	41,700	50	46'8"	9'1"	11'5"	1-30	'39	FORMER TCRT 1719. SOLD TO DMIR RY. (INCL. TRUCKS)
269	TCRT	'15	T.C. #9	4-GE200	K43F2	41,700	43	46'8"	9'1"	11'5"		'35	FORMER TCRT 1716.
270	TCRT	'15	T.C. #9	4-GE200	K43F2	41,700	43	46'8"	9'1"	11'5"		'34	FORMER TCRT 1722.
271	TCRT	'15	T.C. #9	4-GE200	K43F2	41,700	43	46'8"				'35	
272	TCRT	'15	T.C. #9	4-GE200	K43F2	41,700	43	46'8"				'35	
273	TCRT	'15	T.C. #9	4-GE200	K43F2	41,700	43	46'8"				'35	
274	TCRT	'15	T.C. #9	4-GE200	K43F2	41,700	43	46'8"				'35	
275	TCRT	'15	T.C. #9	4-GE200	K43F2	41,700	43	46'8"				'35	
276	TCRT	'17	T.C. #9	4-GE200		41,700	43	46'8"				'35	
277	TCRT	'17	T.C. #9	4-GE200		41,700	43	46'8"				'35	
278	TCRT	'17	T.C. #9	4-GE200		41,700	43	46'8"				'35	
279	TCRT	'14	BALDWIN	4-GE70		42,100		46'8"	9'1"	11'5"			FORMER TCRT 1672. LEASED 12-20-17, RETURNED TO TCRT 10-29-20.

CAR NUMBER	BUILDER	BUILT	TRUCKS	MOTORS	CONTROL	WEIGHT	SEATS	LENGTH OVERALL	WIDTH OVERALL	HEIGHT OVER ROOF	RETIRED	BODY SOLD	REMARKS
280	TCRT	'03	BALDWIN	4-GE70		43,600		45'2"	8'8½"	11'5"			FORMER TCRT 988. LEASED 12-20-17, RETURNED TO TCRT 10-29-20.
281	TCRT	'03	BALDWIN	4-GE70		43,600		45'2"	8'8½"	11'5"			FORMER TCRT 989. LEASED 12-20-17, RETURNED TO TCRT 10-29-20.
282	TCRT	'03	BALDWIN	4-GE70		43,600		45'2"	8'8½"	11'5"			FORMER TCRT 990. LEASED 12-20-17, RETURNED TO TCRT 10-29-20.
283	TCRT	'03	BALDWIN	4-GE70		43,600		45'2"	8'8½"	11'5"			FORMER TCRT 991. LEASED 12-20-17, RETURNED TO TCRT 10-29-20.
284	TCRT	'14	BALDWIN	4-GE70		42,100		46'8"	9'1"	11'5"			FORMER TCRT 1673. LEASED 12-20-17, RETURNED TO TCRT 10-29-20.
285	ST. LOUIS	'05	ST.LOUIS	4-GE67		40,600	36	40'5"				'31	FORMER PARK POINT TRACTION CO. #10 DOUBLE-END. IN SERVICE ON DSR 9-17.
286	ST. LOUIS	'05	ST.LOUIS	4-GE67		40,600	36	40'5"				'31	FORMER PARK POINT TRACTION CO. #11 DOUBLE-END. IN SERVICE ON DSR 9-17.
287	DANVILLE	'11	BRILL	2-GE67	K10	36,600	34	41'1"				'31	FORMER PARK POINT TRACTION CO. #20 DOUBLE-END. IN SERVICE ON DSR 9-17.
288	DANVILLE	'11	BRILL	2-GE67	K10	36,600	34	41'1"				'31	FORMER PARK POINT TRACTION CO. #21 DOUBLE-END. IN SERVICE ON DSR 9-17.
289	TCRT	'06	T.C. #9	4-GE200	K43F2	45,240	45	46'9½"	9'2½"	11'5"		'36	FORMER TCRT 1202, LEASED 1918 FROM EMER FLEET CORP. PURCHASED 1921.
290	TCRT	'06	T.C. #9	4-GE200	K43F2	45,240	45	46'9½"	9'2½"	11'5"		'36	FORMER TCRT 1204, LEASED 1918 FROM EMER FLEET CORP. PURCHASED 1921.
291	TCRT	'06	T.C. #9	4-GE200	K43F2	45,240	45	46'9½"	9'2½"	11'5"		'36	FORMER TCRT 1212, LEASED 1918 FROM EMER FLEET CORP. PURCHASED 1921.
292	TCRT	'06	T.C. #9	4-GE200	K43F2	45,240	45	46'7"	9'2½"	11'5"		'36	FORMER TCRT 1231, LEASED 1918 FROM EMER FLEET CORP. PURCHASED 1921.
293	TCRT	'06	T.C. #9	4-GE200	K43F2	45,240	45	46'7"	9'2½"	11'5"		'36	FORMER TCRT 1232, LEASED 1918 FROM EMER FLEET CORP. PURCHASED 1921.
294	TCRT	'06	T.C. #9	4-GE200	K43F2	45,240	45	46'7"	9'2½"	11'5"		'36	FORMER TCRT 1234, LEASED 1918 FROM EMER FLEET CORP. PURCHASED 1921.
301	LIGHTWEIGHT NOISELESS	'25	SMITH	4-GE258K	K35	24,200	43	36'2"	9'0"	10'3"		'38	
302	LIGHTWEIGHT NOISELESS	'25	SMITH	4-GE258K	K35	24,200	43	36'2"	9'0"	10'3"		'38	
303	LIGHTWEIGHT NOISELESS	'25	SMITH	4-GE258K	K35	24,200	43	36'2"	9'0"	10'3"		'38	
304	LIGHTWEIGHT NOISELESS	'25	SMITH	4-GE258K	K35	24,200	43	36'2"	9'0"	10'3"		'38	
305	LIGHTWEIGHT NOISELESS	'25	SMITH	4-GE258K	K35	24,200	43	36'2"	9'0"	10'3"		'38	
SERVICE EQUIPMENT													
51	LACLEDE	'92	McGUIRE	2-SRG30	K2								TOWER CAR, FORMER PASSENGER 51.
62	LACLEDE	'92	McGUIRE	2-SRG30	K2						1923		SUPPLY CAR, FORMER PASSENGER 62.
64	DSR	'01	DSR	4-GE67	K6			42'2"			1937		WORK FLAT, RECEIVED MOTORS FROM 63. SOLD TO INTERSTATE MINING CO.
65	DSR	'02	DSR	4-GE70	K6			42'2"			1938		WORK FLAT.
66	DSR	'03	BRILL	4-GE67	K35HH			41'10"			1939		SNOW PLOW, TRUCKS & MOTORS EXCHANGED WITH 222 IN 12-17.
67	DSR	'04	BEMIS	4-GE67	K12			30'4"			1933		TOWER CAR, RECEIVED TRUCKS & MOTORS FROM 95.
88	DSR	'95	McGUIRE	2-SRG30	K2			20'5"			1935		SUPPLY CAR.
96	DSR	'07	DSR	4-GE70	K28A			42'2"			1939		WORK FLAT.
97	DSR	'12	DSR	4-GE70	K28B			42'2"			1939		WORK FLAT.
111	NORTHERN		McGUIRE	2-WP30									TOWER CAR, WRECKED.
112	NORTHERN		McGUIRE	2-WP30									TOWER CAR.
131	AMERICAN	'94	McGUIRE	2-SRG30	K2						1931		SUPPLY CAR, FORMER PASSENGER 131.
137	AMERICAN		McGUIRE	4-WP50									SWEEPER.
138	AMERICAN		McGUIRE	4-WP50									SWEEPER.
139	DSR	'02	BRILL	4-GE70	K35HH			41'10"			1939		SNOW PLOW. TRUCKS & MOTORS EXCHANGED WITH 241 IN 12-17.
140	DSR	'06	BRILL	4-GE70	K35HH			41'10"			1939		SNOW PLOW.
141	TCRT	'11	DSR	4-GE70	K28B			37'3½"			1940		WRECKER (8 TON CRANE).
142	DSR		McGUIRE	2-SRG30	K2			21'0"			1935		WORK FLAT IN SERVICE 4-17. TRUCKS & MOTORS TAKEN FROM 85.
143	DSR		McGUIRE	2-SRG30	K2			21'0"			1938		WORK FLAT IN SERVICE 7-17. TRUCKS & MOTORS TAKEN FROM 61.
144	DSR		McGUIRE	2-SRG30	K2			21'0"			1939		WORK FLAT IN SERVICE 7-17. TRUCKS & MOTORS TAKEN FROM 49.
145	DSR		McGUIRE	2-SRG30	K2			21'0"			1939		WORK FLAT IN SERVICE 7-17. TRUCKS & MOTORS TAKEN FROM 42.
146	TCRT	'17	TCRT	4-GE73	C6K			36'8"			1939		SNOW PLOW.
147	LACLEDE		McGUIRE	2-GE67	K10			32'9"					SNOW PLOW, FORMER PARK POINT TRACTION CO. #12. IN SERVICE ON DSR 1917.
148	LACLEDE		McGUIRE	2-WP30	K2			27'4"					TOWER CAR, FORMER PARK POINT TRACTION CO. #13. IN SERVICE ON DSR 1917.

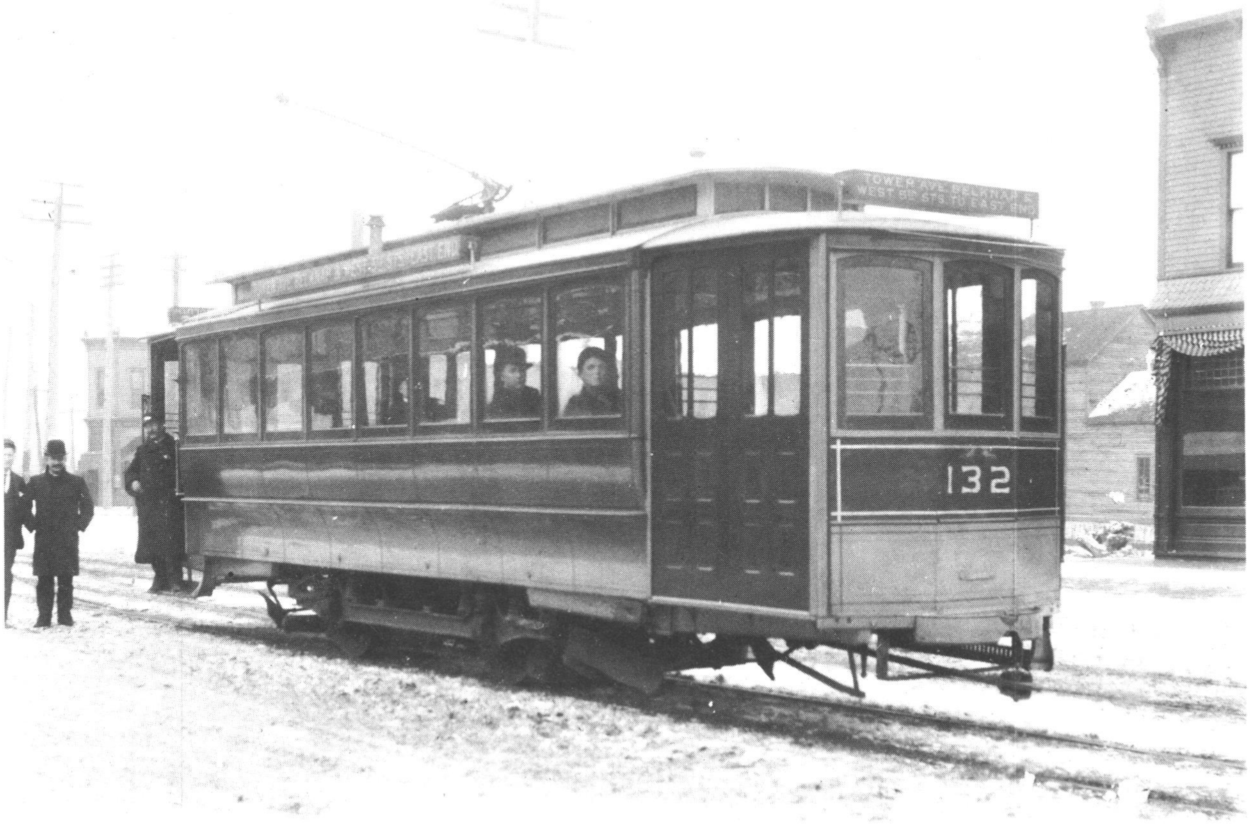


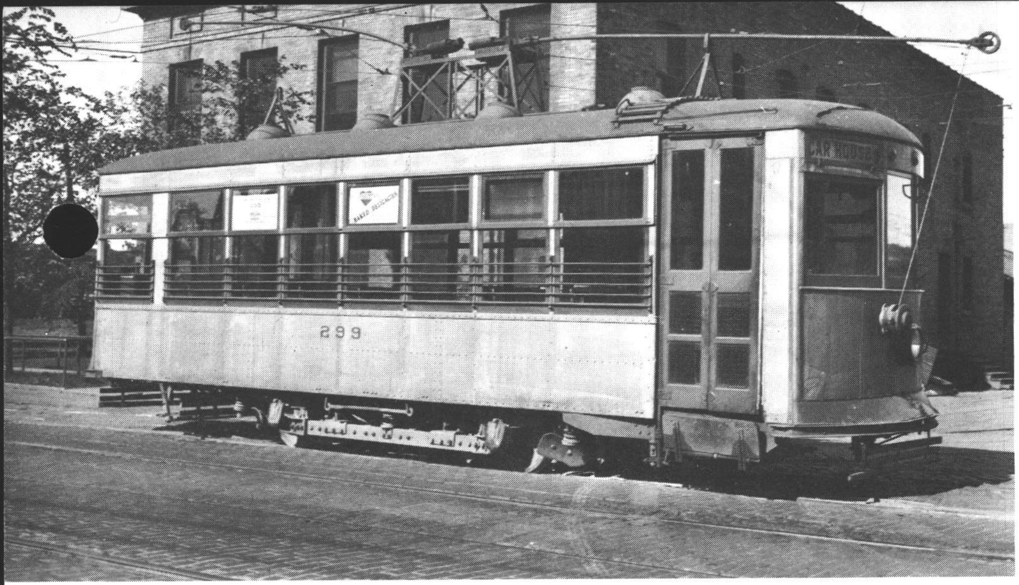
ABOVE: **To provide service on the West 4th Street shuttle with a minimum amount of manpower, Cars 57 (shown here at the Duluth carbarn) and 52 were rebuilt in 1919 for one-man operation.** BELOW: **Private car ST. LOUIS at the Duluth carbarn in 1917; it had been rebuilt in the late 1890's from Car 42. It was scrapped after this picture was taken.** Wayne Olsen.



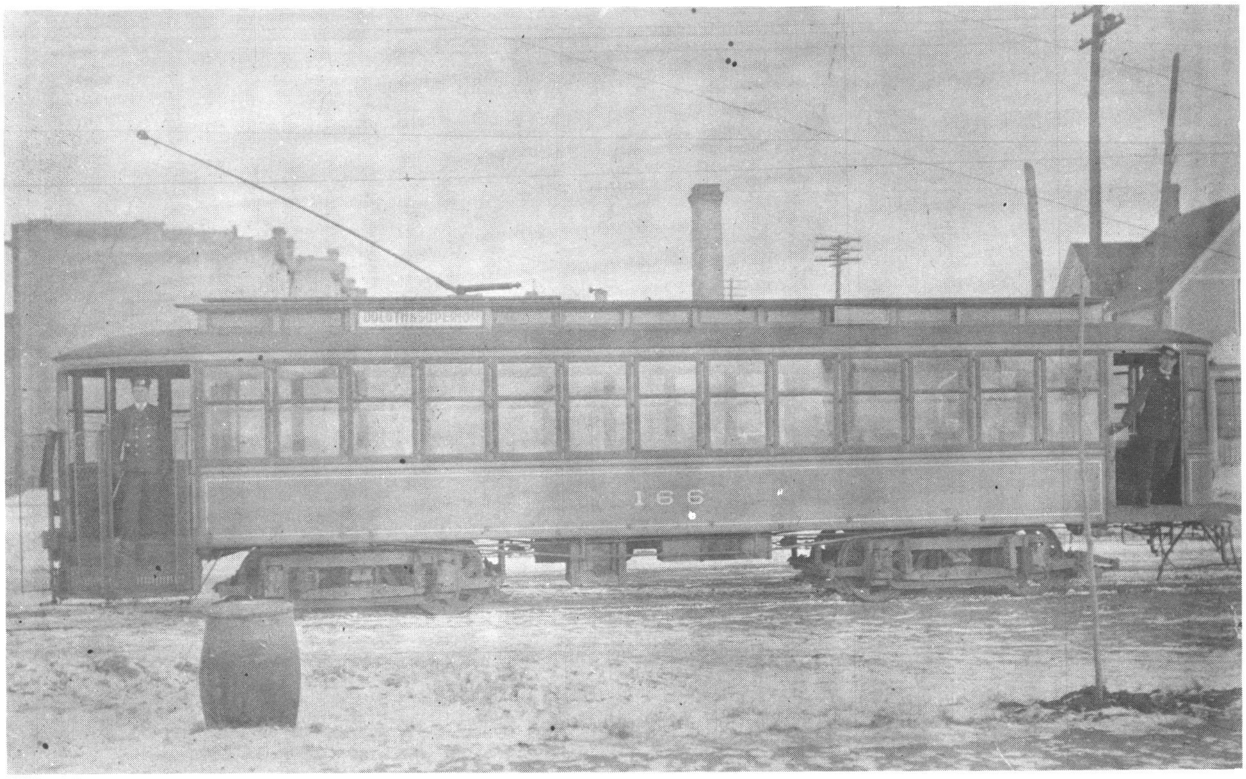

75
Photo by Brown

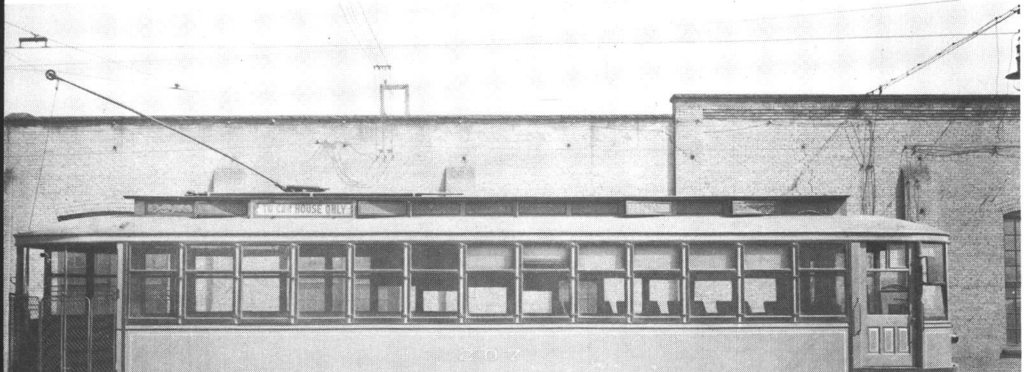
LEFT: **Car 75 signed for Billings Park in Superior. This car was built in 1893 by Laclede Car Co. for Duluth, and, along with single-truck cars 47, 53, 59, 73, 79, and 82, it remained in Superior until 1923.** BELOW: **Car 132 was typical of the Superior Rapid Transit Co. in the mid-1890's. At the time of this photo, the car was equipped with narrow-gauge trucks.** Wayne Olsen.


TOWER AVE. BELKNAP &
WEST 8TH STS. TO EAST END
132



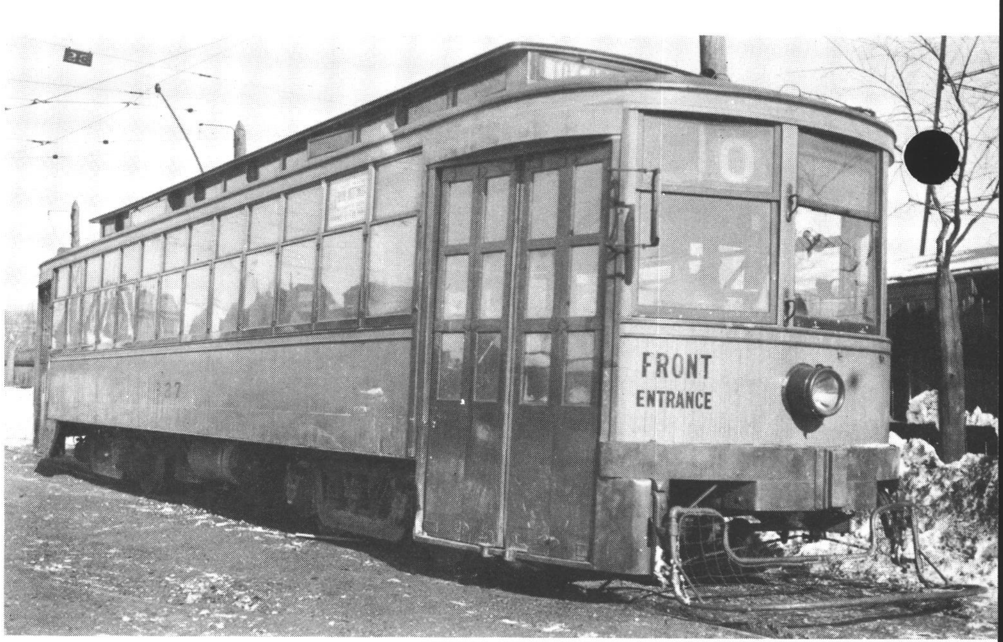
Double-end Birney No. 299 at the Duluth carbarn in 1932. The three double-end Birneys were used on Park Point, and elsewhere as required for special or temporary service. When used in Superior, they were officially recorded as being "on loan" to overcome lack of approval for regular operation in Superior by the Wisconsin Railroad Commission. Wayne Olsen.



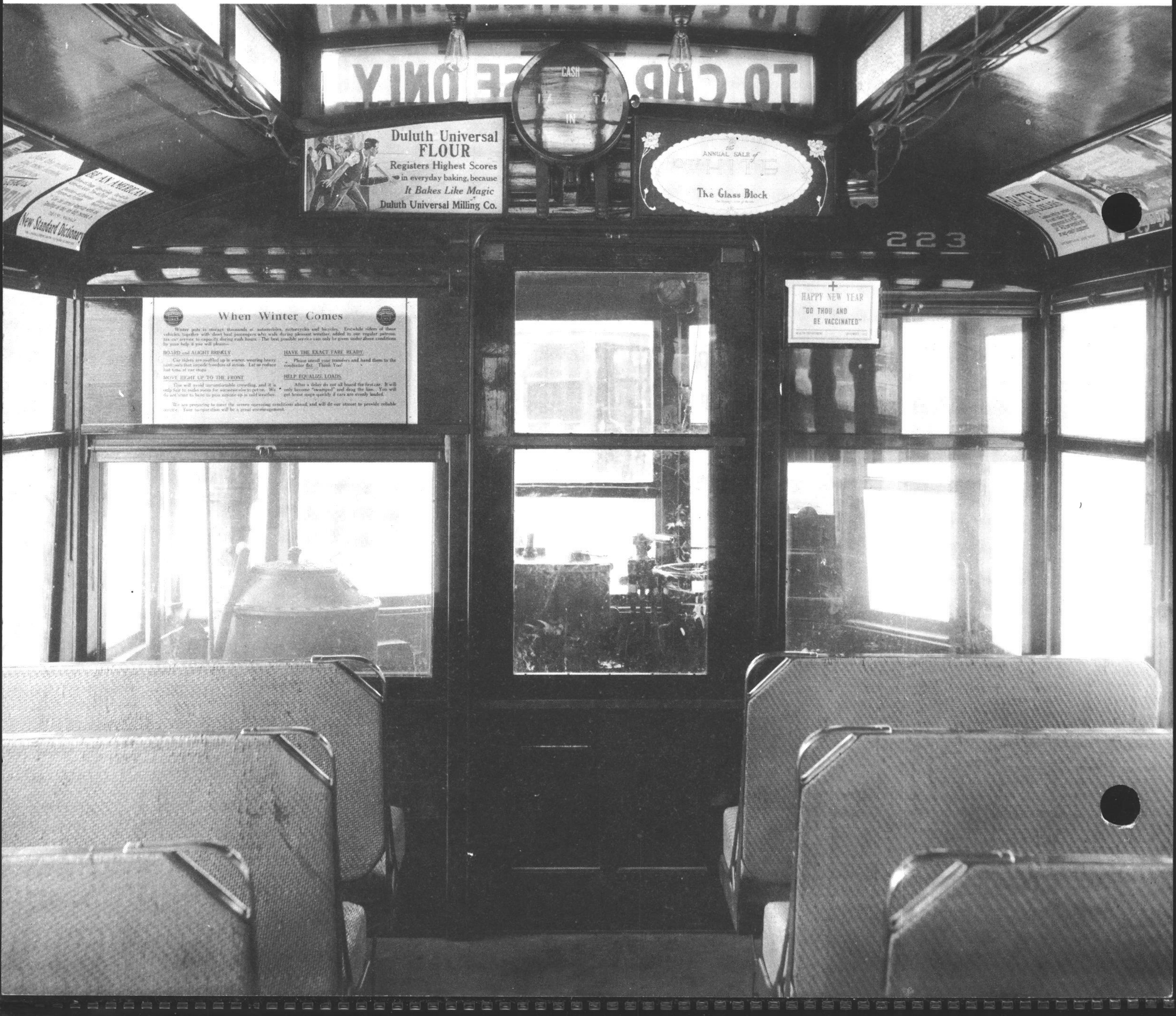


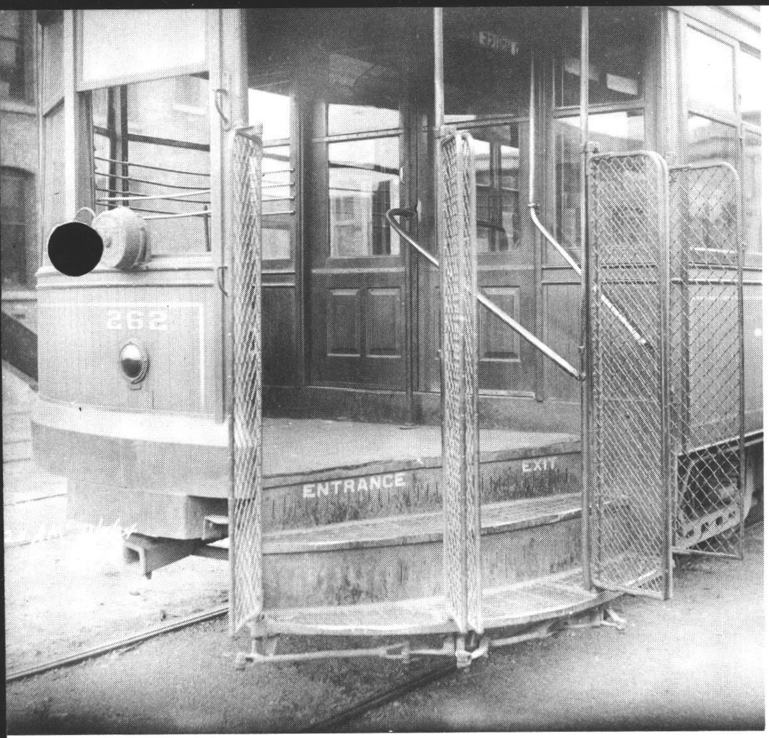
ABOVE: **This 1905 view of No. 166 shows the car in characteristic Twin City style. Conductor Skafte and Motorman Bloomquist provide a typically Scandinavian touch while waiting at 21st and Tower in Superior.** LEFT: **The 130 so-called "Standard" cars bought by DSR from Twin City Rapid Transit Co. originally had the general appearance shown by Car 207. The color was a greenish yellow; over the years it became a plain yellow.** Wayne Olsen.

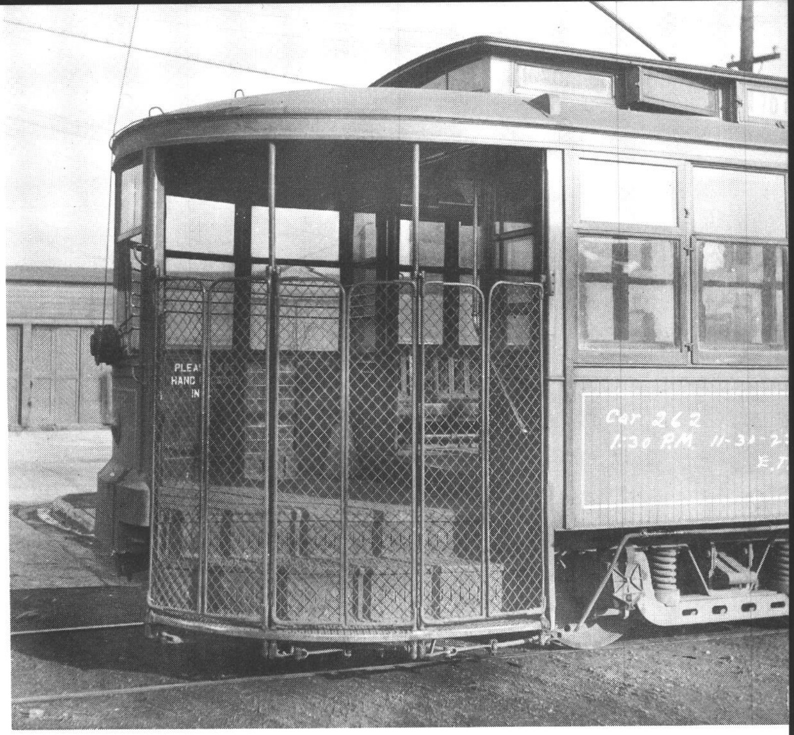
PV119ED AVERY™


10
FRONT
ENTRANCE

BELOW: **An interior view of Car 223 during its two-man days.** RIGHT: **Car 227 in the storage yard just west of the Duluth carbarn.** Wayne Olsen.

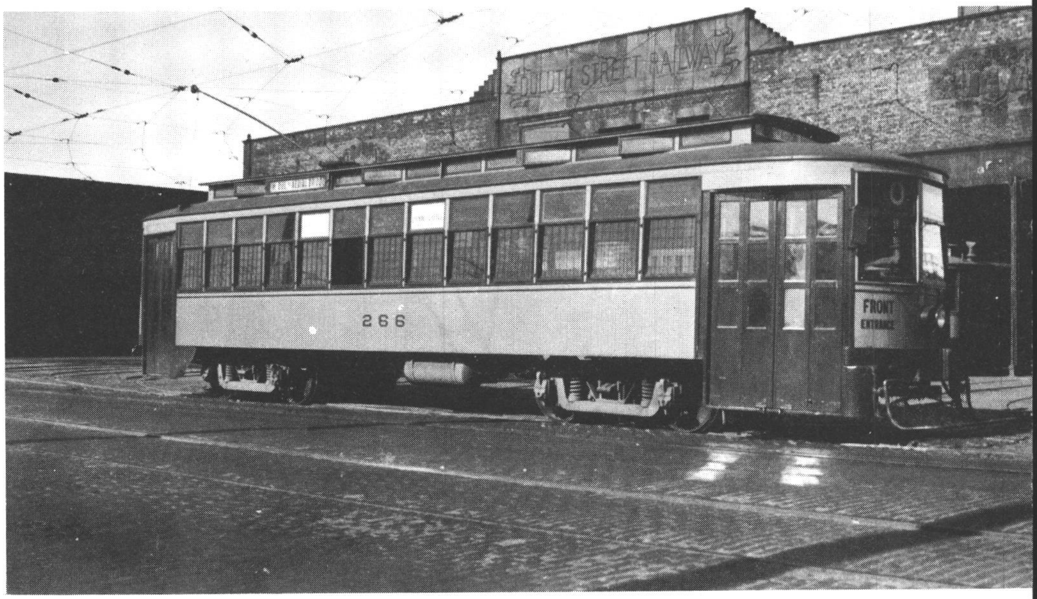

TO CAR
ONLY
CASH
IN
Duluth Universal FLOUR
Registers Highest Scores in everyday baking, because
It Bakes Like Magic
Duluth Universal Milling Co.
ANNUAL SALE of
The Glass Block
BE AN AMERICAN
New Standard Dictionary
223
When Winter Comes
BOARD and ALIGHT BRISKLY
MOVE RIGHT UP TO THE FRONT
HAVE THE EXACT FARE READY
HELP EQUALIZE LOADS
HAPPY NEW YEAR
"GO THOU AND BE VACCINATED"

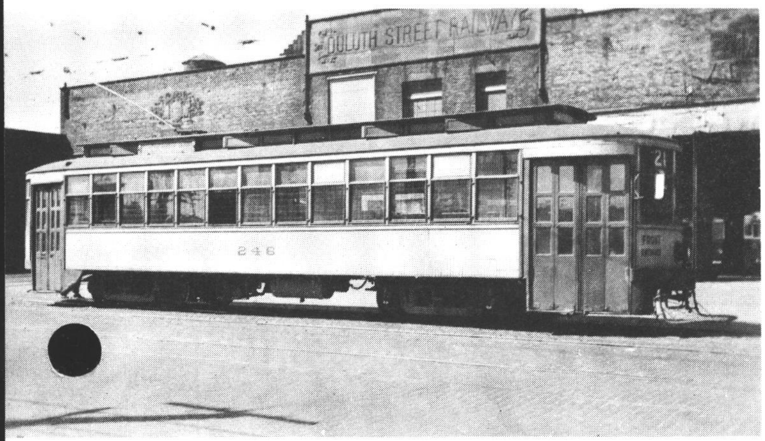

EXIT
262
ENTRANCE
EXIT

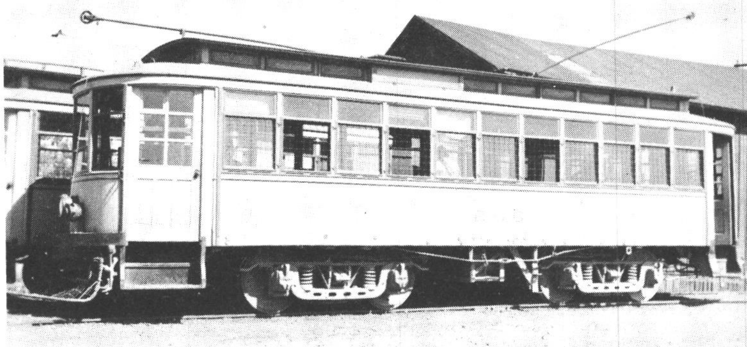

PLEA
HAND
IN
Car 262
1:30 P.M. 11-31-2
E.T.

UPPER LEFT & UPPER RIGHT: **The "standard" gates on the Twin City-style cars are shown in the open and closed positions. When delivered, Nos. 151-162 had one set of gates; Nos. 163-203, 280-283, and 289-294 had two sets; and Nos. 204-219, 222-254, 257-279, and 284 had three sets.** Wayne Olsen.

RIGHT: **Activity on Twin City cars after 1923 took the form of rebuilding them for one-man operation, as shown on Car 266. A total of 73 were converted between 1924 and 1930.** Wayne Olsen. BELOW RIGHT: **Service on the isolated Highland Avenue Line in Duluth was provided after 1911 by two double-end cars with doors on one side only. Nos. 255 and 256 were originally built by Twin City Rapid Transit Co. in 1901 as short, single-end cars. Before shipping them to Duluth, TCRTC rebuilt them to the style shown here.** BELOW LEFT: **Car 246 at the Duluth carbarn in September 1938.** Myles Jarrow.


DULUTH STREET RAILWAY
266
FRONT
ENTRANCE

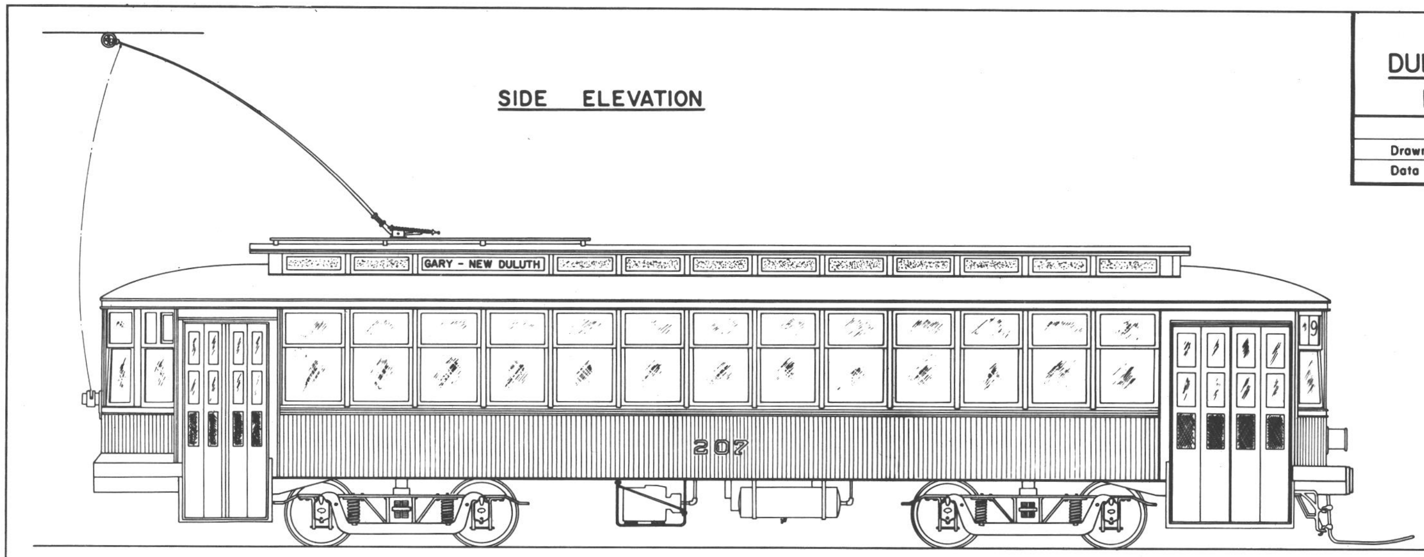

DULUTH STREET RAILWAY
246
FRONT



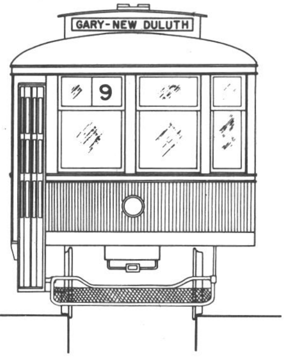
DULUTH-SUPERIOR TRACTION CO.
REMODLED CARS: 198-268

Drawn By: A.W. Maginnis, March 18, 1969
Data Sources: M.E. Borgnis & J.M. Canfield

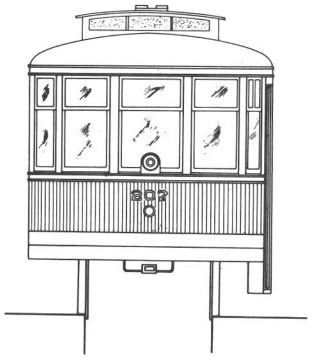
SIDE ELEVATION

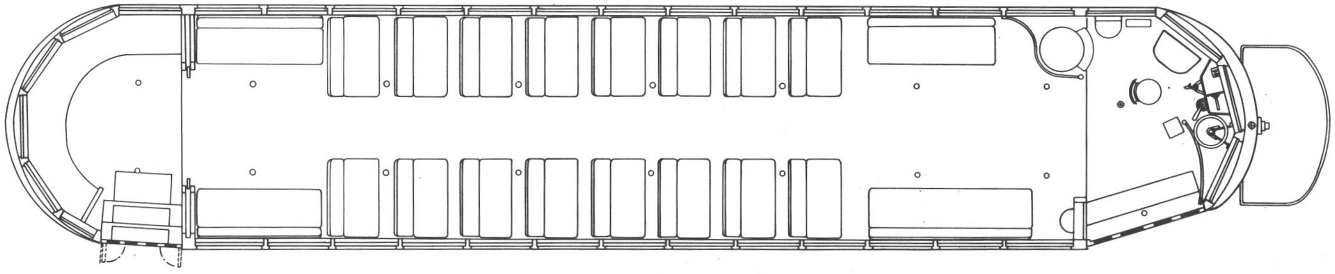

GARY - NEW DULUTH
19
207

FRONT ELEVATION


GARY-NEW DULUTH
9

REAR ELEVATION



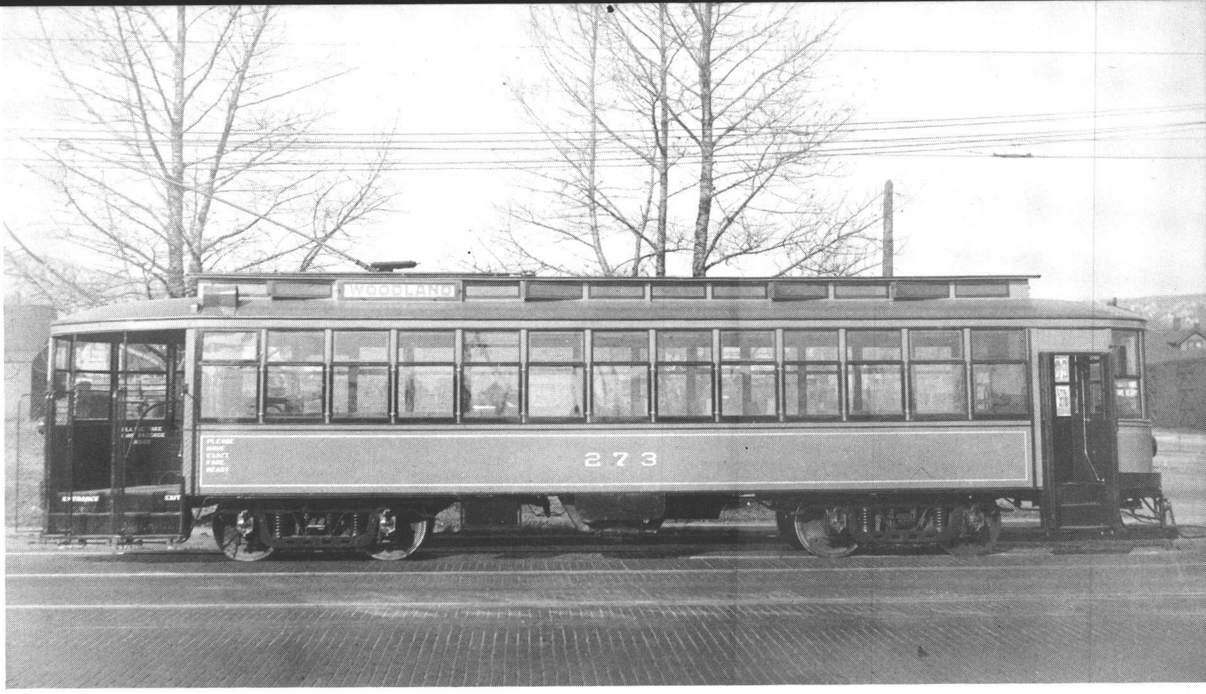


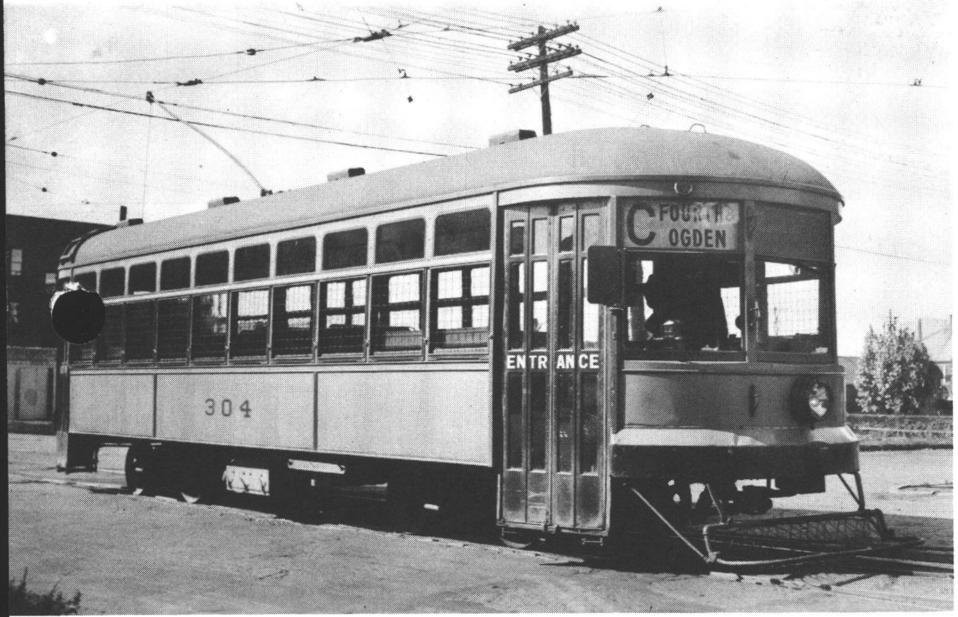
FLOOR PLAN

Scale in feet
3.5 mm = 1 foot
0 5 10 15

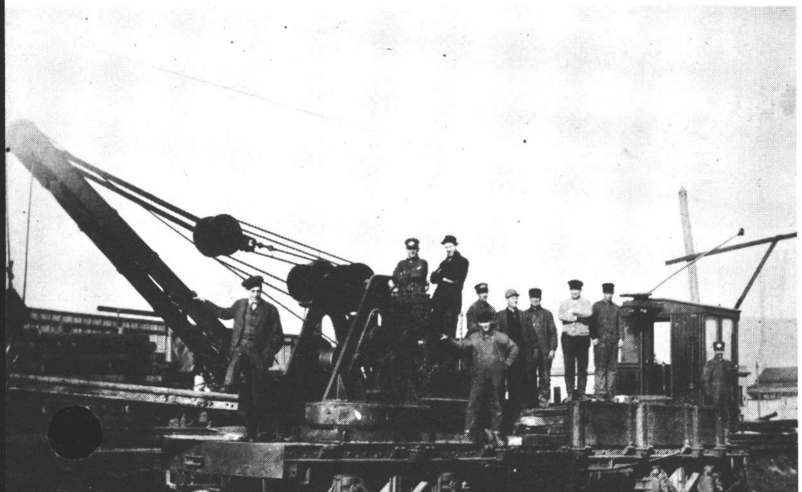
CERA ④

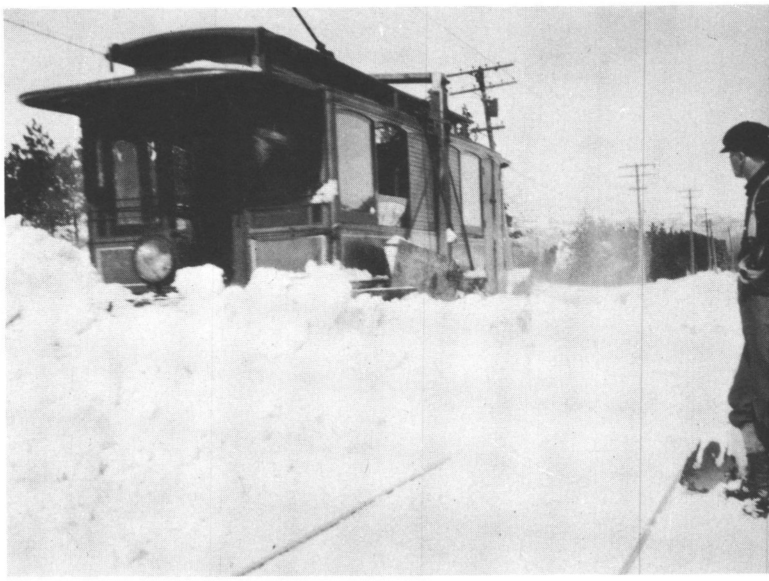
PV119ED AVERY™

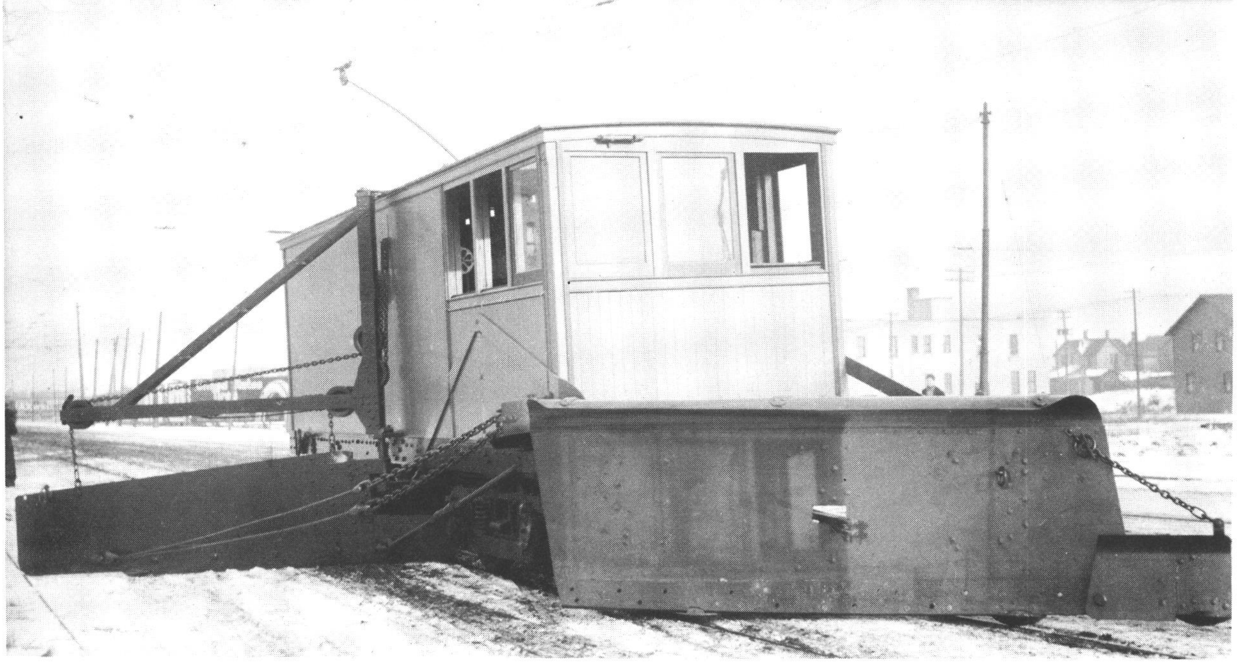




LEFT: **Car 304 at the Superior carbarn. Car 301 in this series was the last streetcar to operate in Superior, on June 23, 1935.** Myles Jarrow. ABOVE: **During 1923, nine cars were rebuilt with a front exit, as shown on Car 273.** LOWER LEFT: **An early shot of the Duluth Street Railway's wrecker.** LOWER RIGHT: **As a snowplow, this converted passenger car saw considerable service on Park Point.** Wayne Olsen.







Snowplow No. 4, at the Duluth carbarn, when new in 1917. Wayne Olsen.

* * *

The Allouez Yard Car

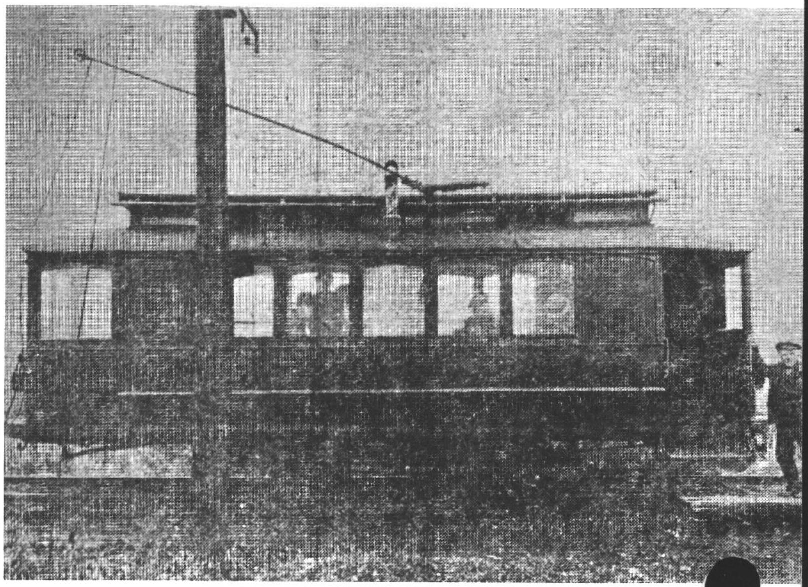
ALLOUEZ Yard in Superior, Wisconsin, has handled most of the Great Northern Railway's iron ore traffic off the Mesabi Range. The yard is just south of the city. As traffic increased in the period before World War I, the GN found that crews were losing a lot of time walking the length of the yard to and from their trains, besides the danger of being run down. A line was constructed in 1914 from the DSS&A Railway crossing to the Allouez Yard Enginehouse, a distance of 9,313 feet.

No record remains in company files of the opening of this service. It has been ascertained that in 1913, Twin City Rapid Transit Company (Minneapolis-St. Paul) sold their last operable single-truck streetcar (Number 448) to the Great Northern Railway. This car had been built in 1891 by J. M. Jones' Sons Car Company, Watervliet, N.Y. The GN then gave this car a coat of utilitarian, dark green paint for easy maintenance and used it Allouez.

The railway apparently considered the northern end of the line close to streetcar service. There was, however, quite a walk from the end of the dinkey to the outer end of the Duluth-Superior Traction Company's Allouez car line. Trainmen on the way home in the depth of winter after a run off the Mesabi would grouse — and not good naturedly — about the distance as they walked against sub-zero winds which blew in from Hudson Bay and beyond.

The railway operated around the clock so the dinkey shuttled 'round the clock also. Three men were qualified to run the car — an eight-hour shift for each.

However, in a period of 24 hours the car made only 16 trips so there was plenty of waiting for the car. There was a waiting station — or shelter — at the city end of the line. Here the men would congregate and exchange remarks or grouse about weather, runs, superintendent, or whatever as they waited for the little car. De-



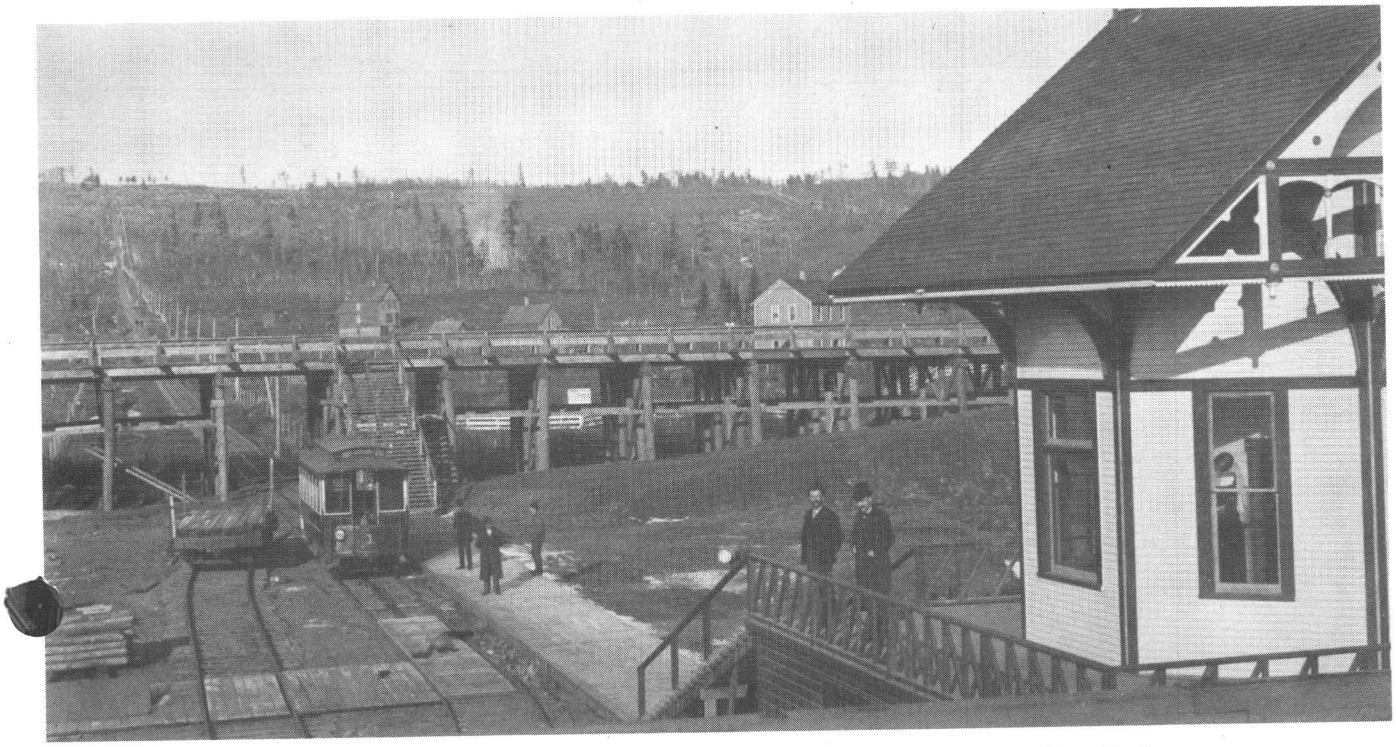
termined not to let things get their goat, practically every Great Northern man who worked out of Allouez carved his initials on the interior of the four-by-four shelter.

Everybody from superintendent to car checker and call boy used the car in connection with their duties.

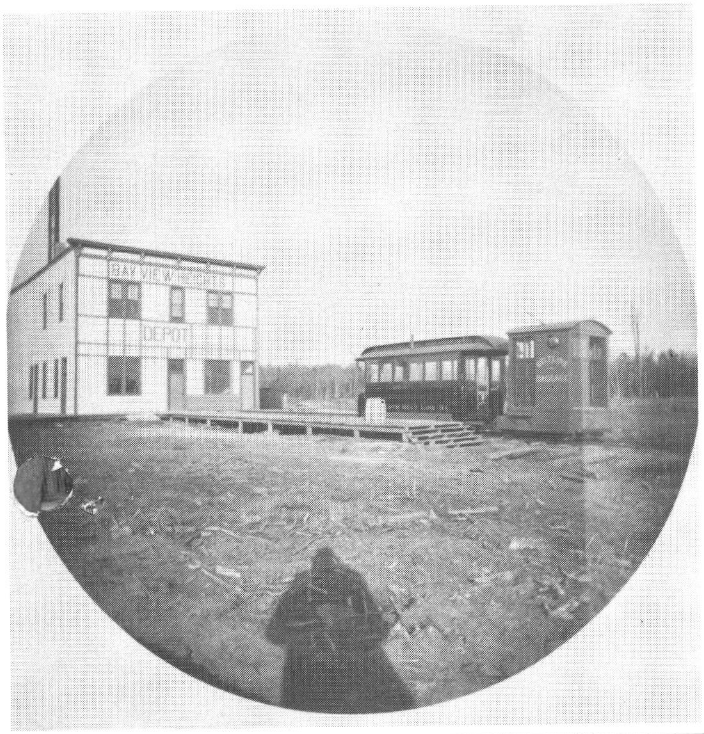
W. A. Hill, who had the second trick in 1923, reported, "I've made 40 miles an hour with the derned thing. 40 miles — but she rocks some at that gait."

Track was removed in 1927 and a gasoline operated car ran on the regular yard tracks. This, in turn, was soon replaced by a bus.

* * *



ABOVE: **The lower station of the Duluth Belt Line Incline, with a deck-roof car.** BELOW: **The upper station of the incline. A single-truck motor car is pulling a railroad-roof trailer.** Wayne Olsen.

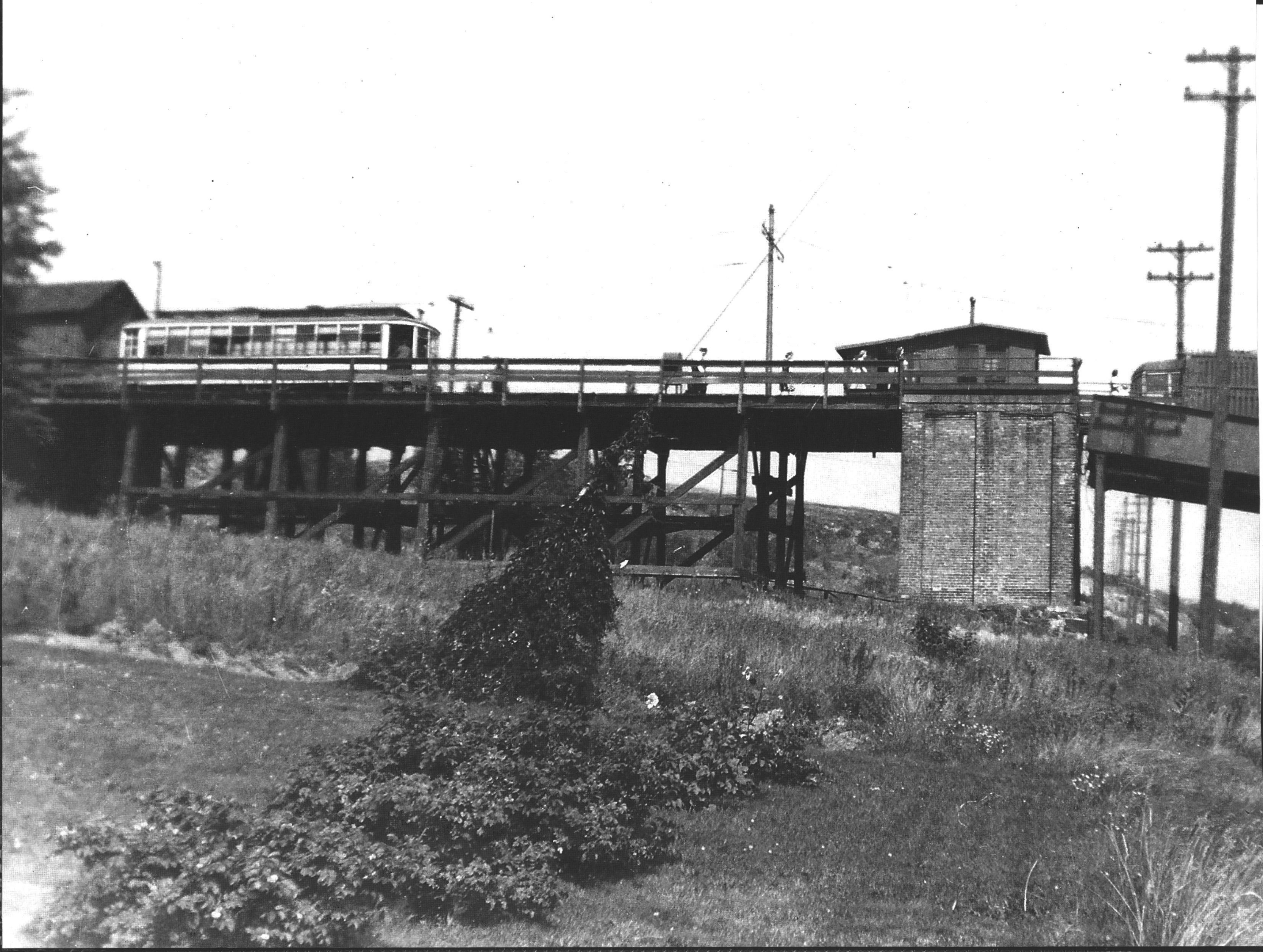


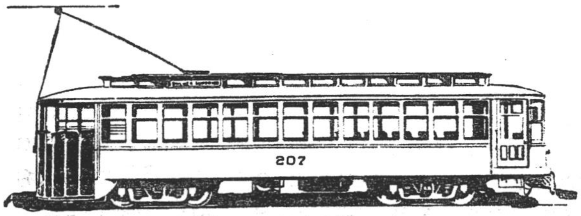
Duluth Belt Line Railway

THE HILLY terrain of Duluth made the incline railway seem like a logical means of transportation to reach desirable residential areas on the heights above Lake Superior in the days before the automobile. In 1889 the first incline railway was incorporated, as the Duluth Incline Railway Company, to build from Central Avenue and Main Street in West Duluth up to Bay View Heights.

The pictures indicate that two second-hand streetcars were acquired. The deck-roof car was a former Duluth streetcar, and the single-truck box car was probably used to provide a package delivery service for Bay View Heights residents.

Reorganized as the Duluth Belt Line Railway Company, the line was never an outstanding success. A combination of mechanical failure, operating difficulties and dwindling revenues forced the company to abandon in 1916.





Jim J. Kreuzberger
8312 W. 92nd Street
Overland Park, Kansas 66212
23 May '01

Aaron,

Thanks for your ex cellent DSR 7th Ave. W. Incline story in the Spring MINNE-GAZETTE. That Incline was a unique operation. Today's tourist bureau--and others--wish it was still there. That's a lot of wishful thinking; it never was a profitable operation, even from the beginning. Tom Lowry's dream of a real estate empire never took off...never left the ground, in fact. All the cards were stacked against him.

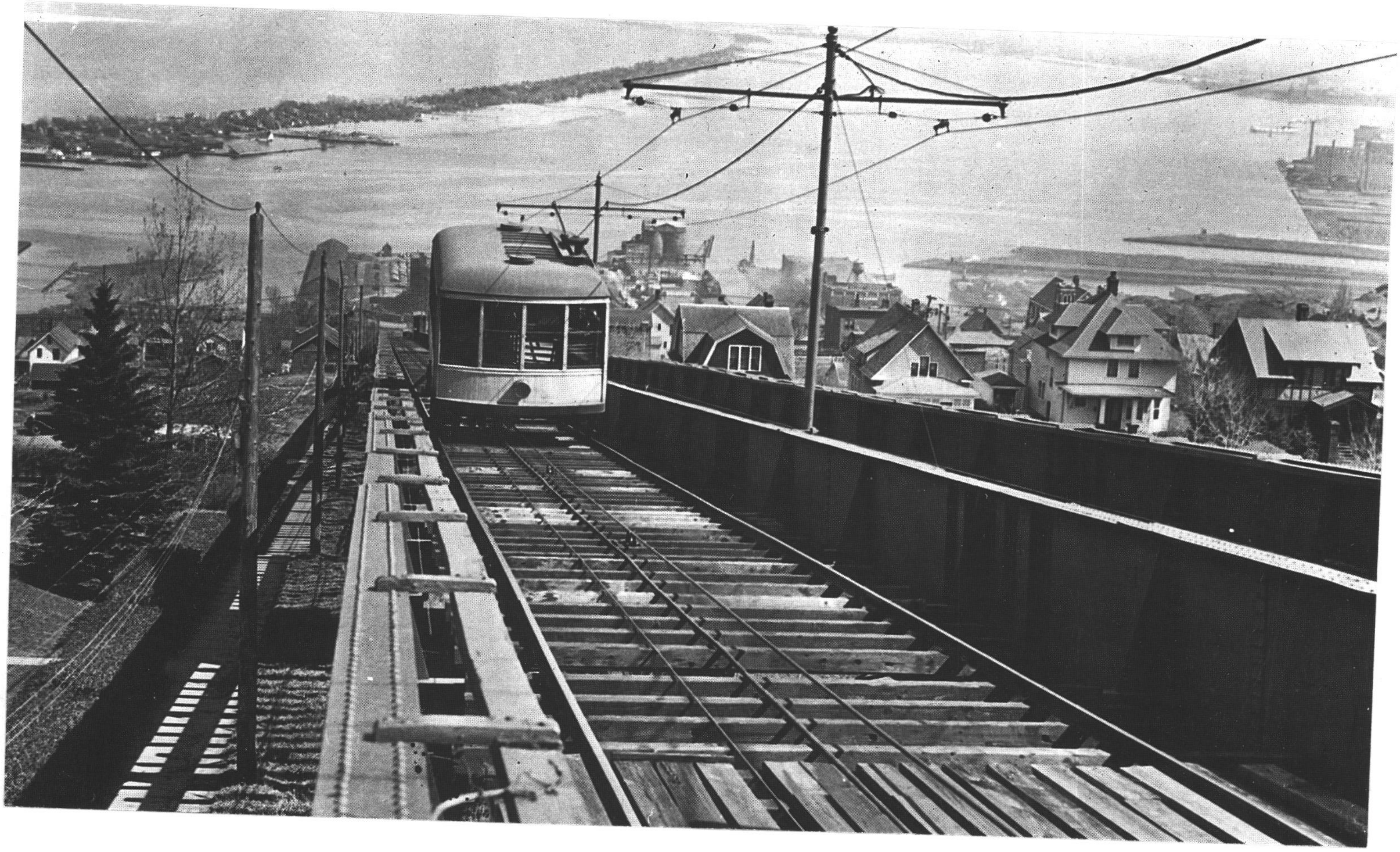
Here are some notes on the photos, for whatever they may be worth:
Bottom pp 26: Mesabe Ave. angles under the Incline. The station stop at the left in the photo is the first station stop above Superior St.
Top pp26: photo was taken from the station platform at the top of the Incline (W. 8th St.). Note the under-running track for the phone system. Park Point is in the far background. If you extend the power line pole (on the left edge of the photo), extend it straight up, and where it crosses Park Point, that is where I was born...those many years ago...where they at that time had that interesting, struggling, privately owned little trolley operation.
Top pp 27: the grade here is 23%, the Incline's steepest. Note, also the several slight changes in grade in the top pp 29 photo.
Bottom pp 27: up-bound 5th station stop near Boulevard/W. 7th St. This is an excellent shot showing the stairway and other walk-ways at the station stops.
Bottom pp 28. Note that both platforms had one door, and both were on the west side of the car, because the tracks were mostly along the east side of streets/roads.
Bottom pp 29: Correction: view is northwest; note morning shadow from southeast.
Pp 30: Incline cars had double doors which gave the conductor a needed choice when lining up with the station stop doors...changes in temperature and other factors caused some contraction and stretching of the pulling cables.

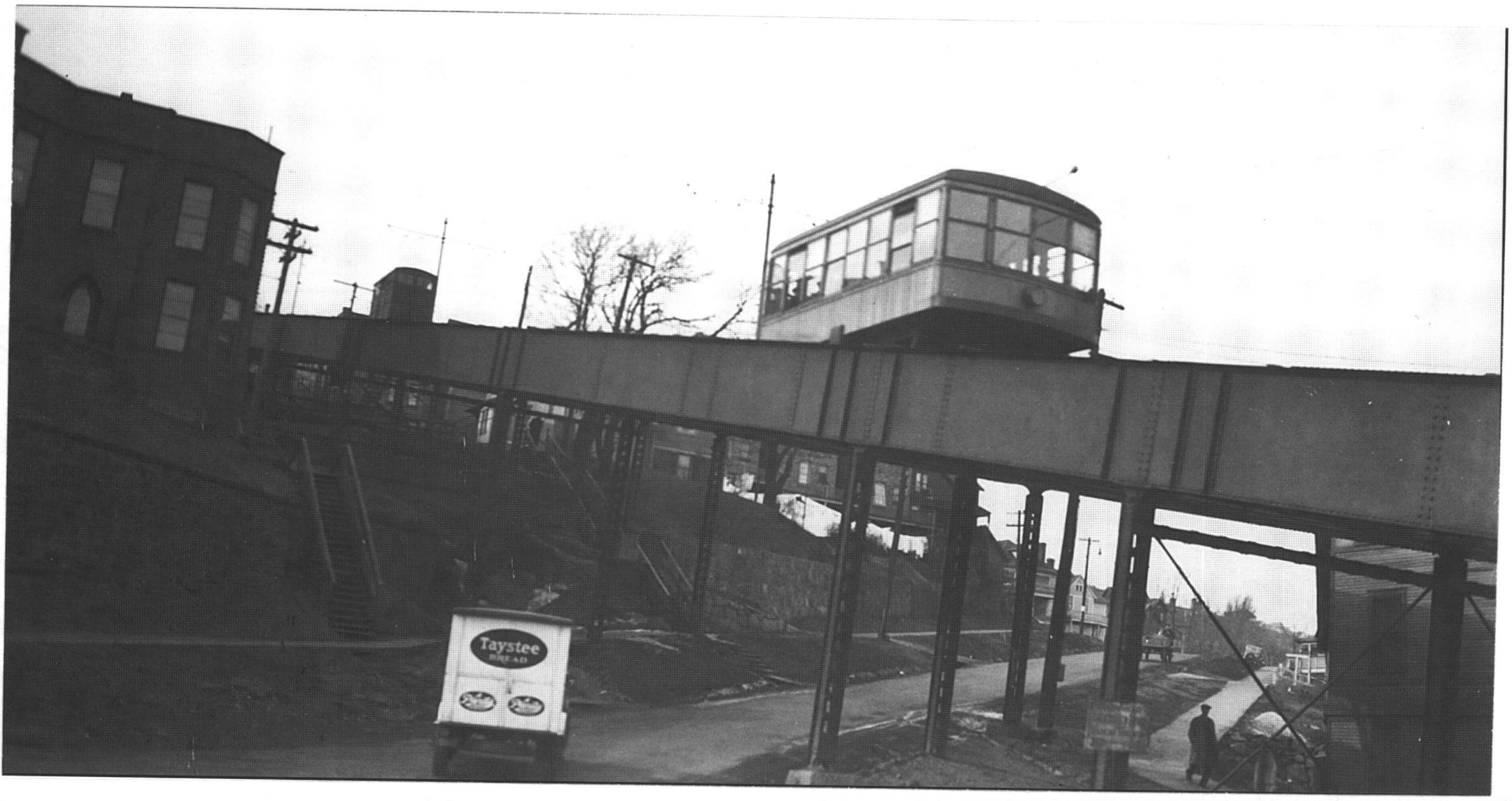
Thanks again, Aaron.

Regaards,

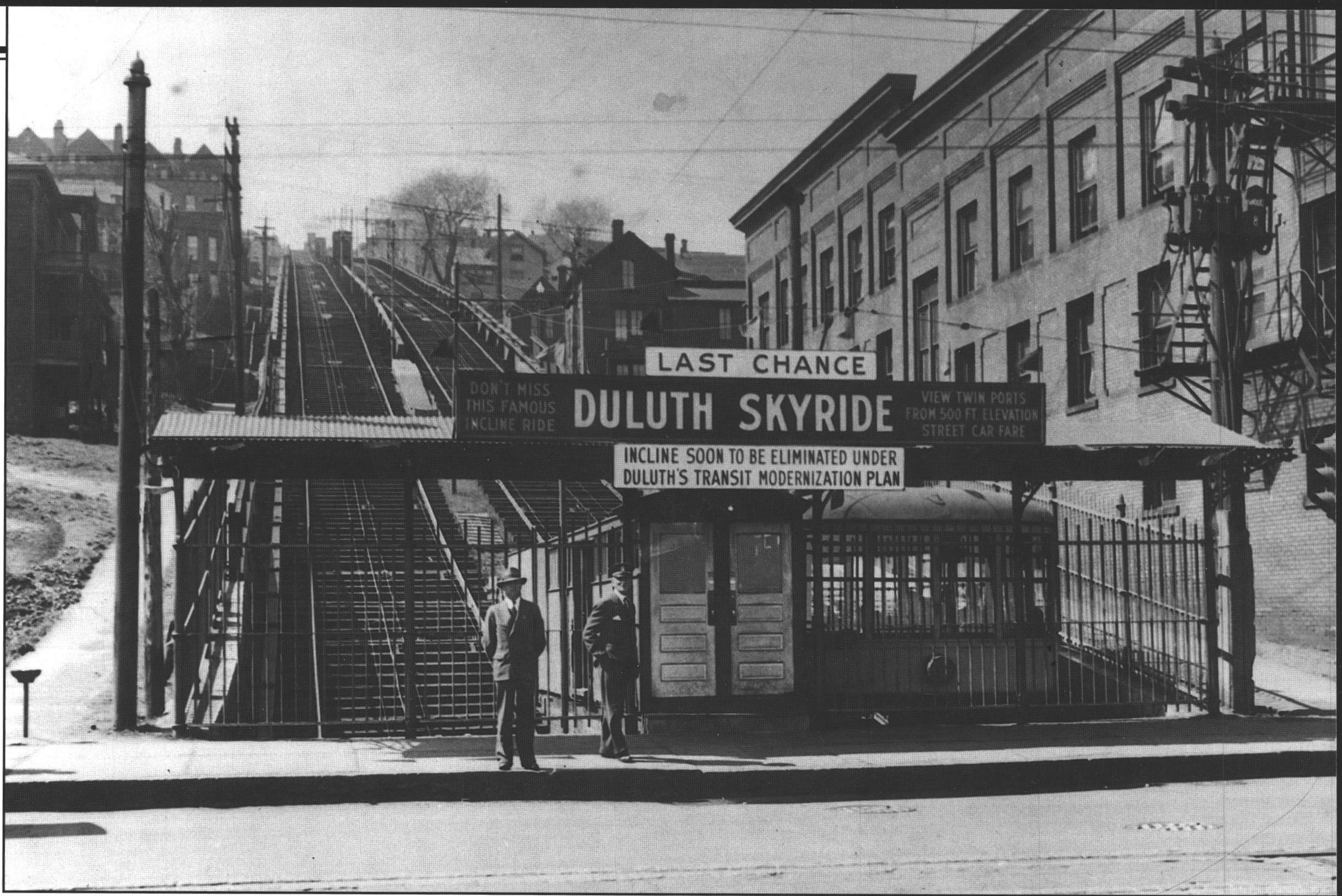
Jim

cc Russ Olson



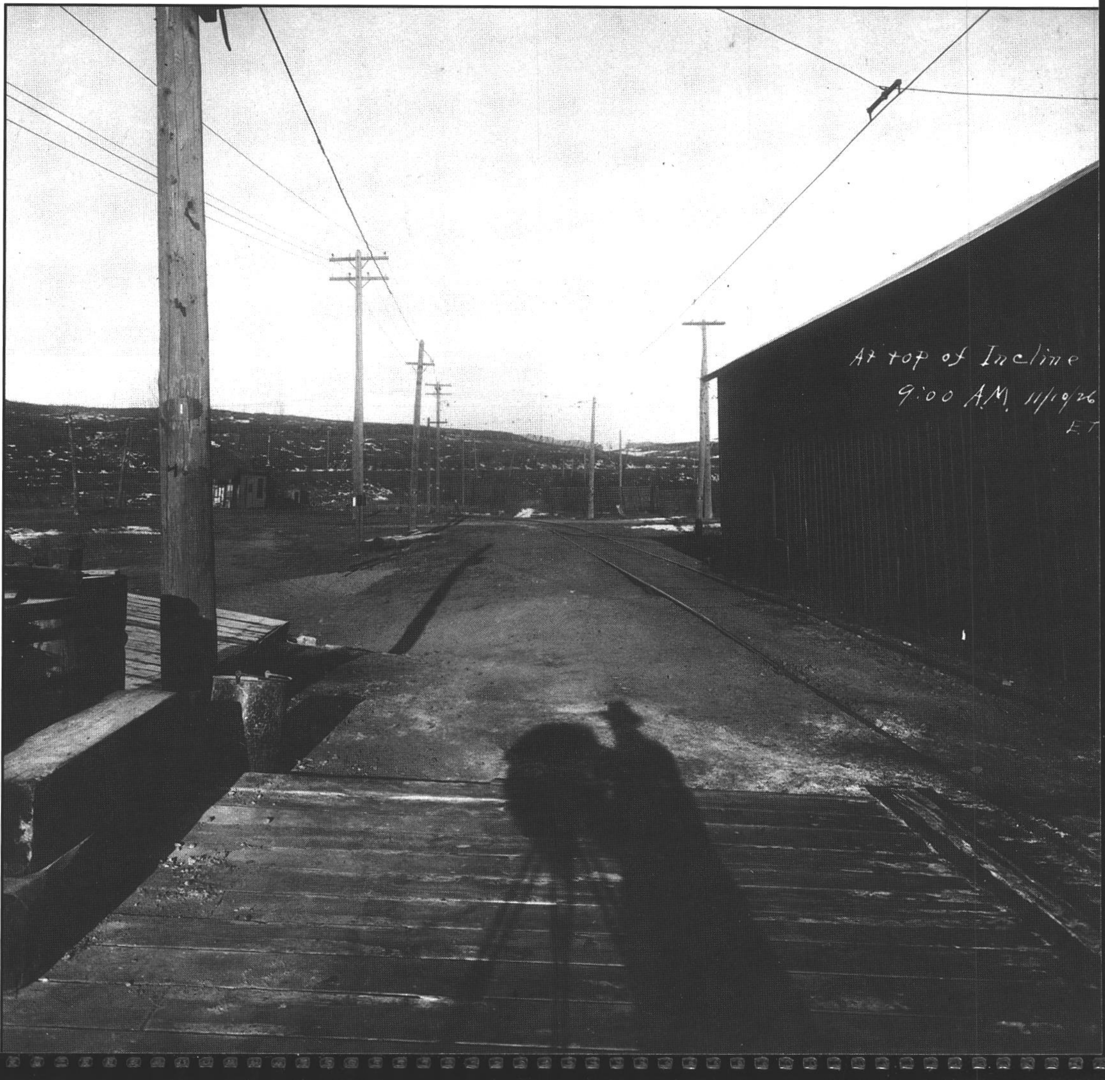

Taystee
BREAD

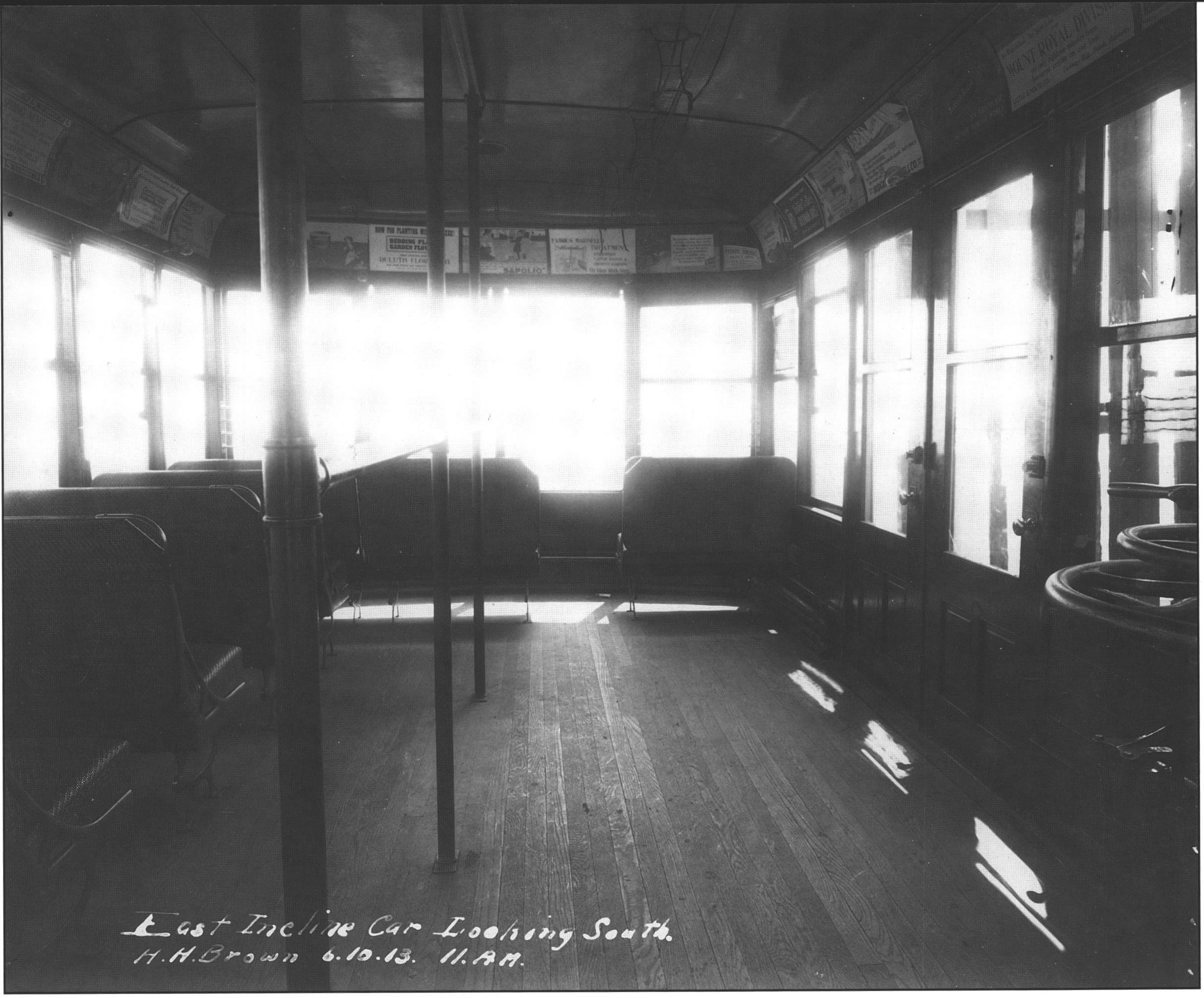
AVERY® POLY-VU


LAST CHANCE
DON'T MISS THIS FAMOUS INCLINE RIDE
DULUTH SKYRIDE
VIEW TWIN PORTS FROM 500 FT. ELEVATION STREET CAR FARE
INCLINE SOON TO BE ELIMINATED UNDER DULUTH'S TRANSIT MODERNIZATION PLAN

Incline Station Landing
Kegler's BAR & GRILL
PARKING IN REAR
MON FRI 330-630 PM
ALL BAR DRINKS BEER
WINE $1.50 25¢ OFF
ALL OTHER DRINKS

About the only reminder of the incline is this restaurant located near the old base station.

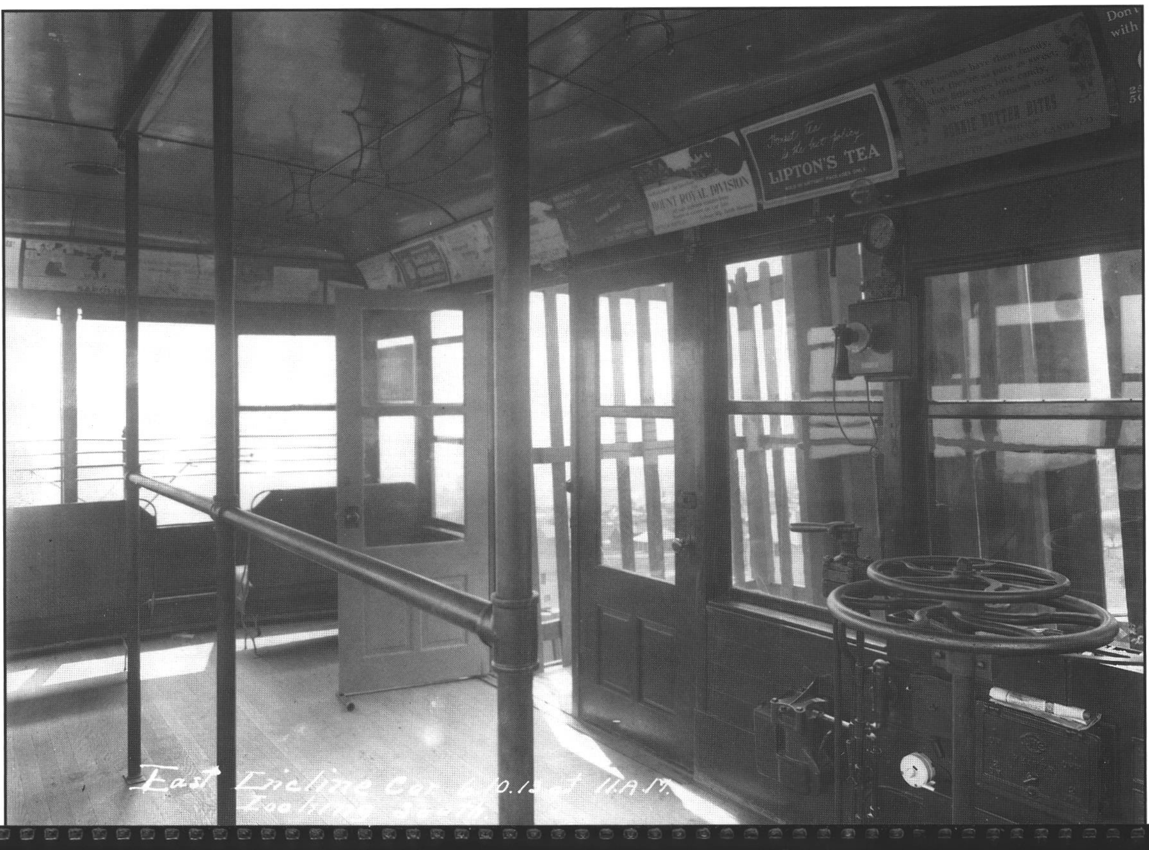

At top of Incline
9:00 A.M. 11/19/26
ET


East Incline Car Looking South.
H.H.Brown 6.10.13. 11.A.M.

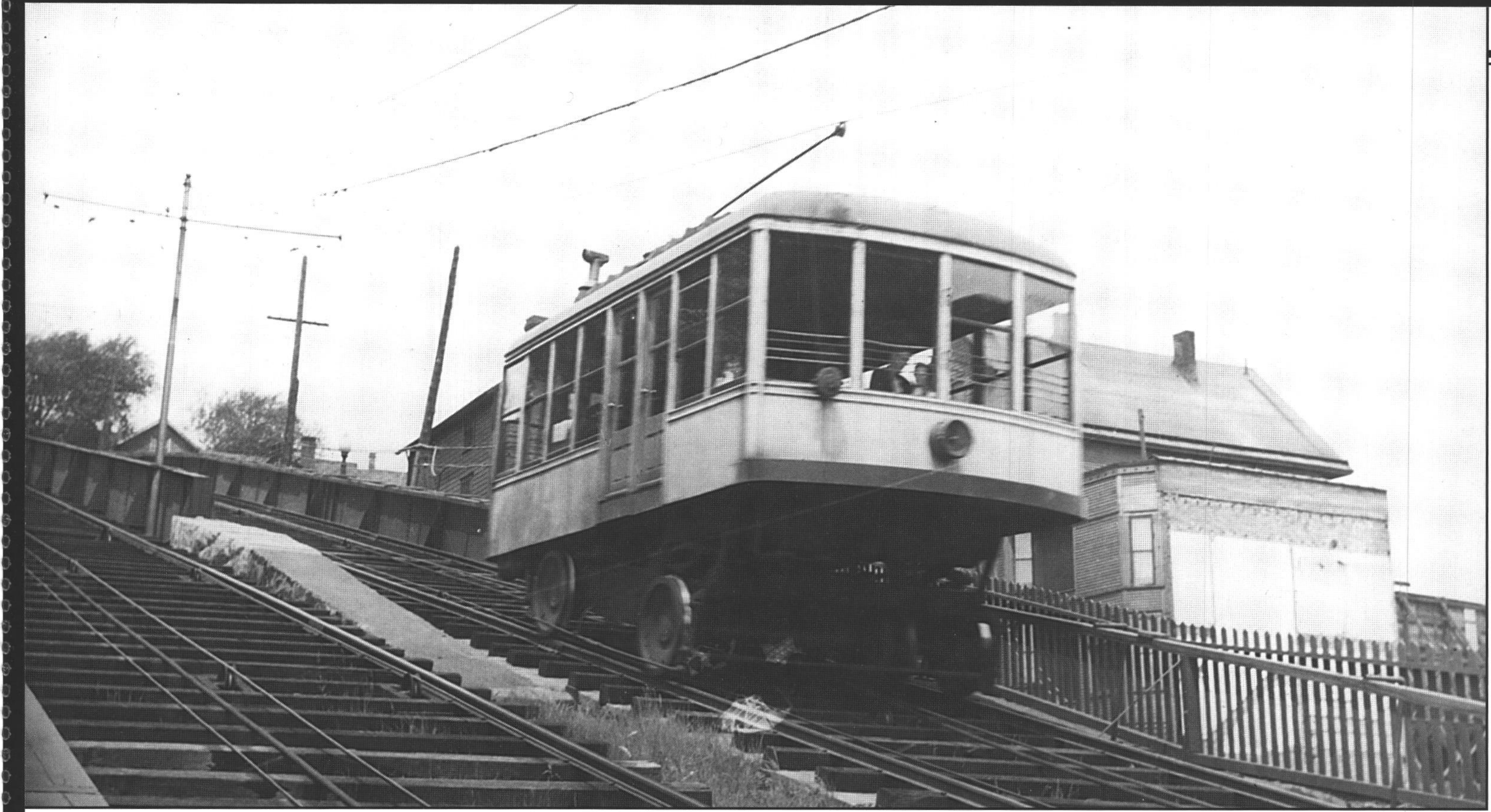
Two interior views of an incline car, looking towards the lake in 1913, when they were introduced. Both Dick Stoner collection.

Inside rear cover: The Chicago & North Western in Tracey, around the turn of the century. The depot still stands. Library of Congress collection.

Rear cover: In 1930 the Soo Line built three Class N20 4-8-2s at Shoreham Shops. #4018 was the first. Norton & Peel photo, Minnesota Historical Socierty collection.


LIPTON'S TEA
MOUNT ROYAL DIVISION
East Incline Car 6.10.13 11 A.M.
Looking South.

AVERY®
POLY VU

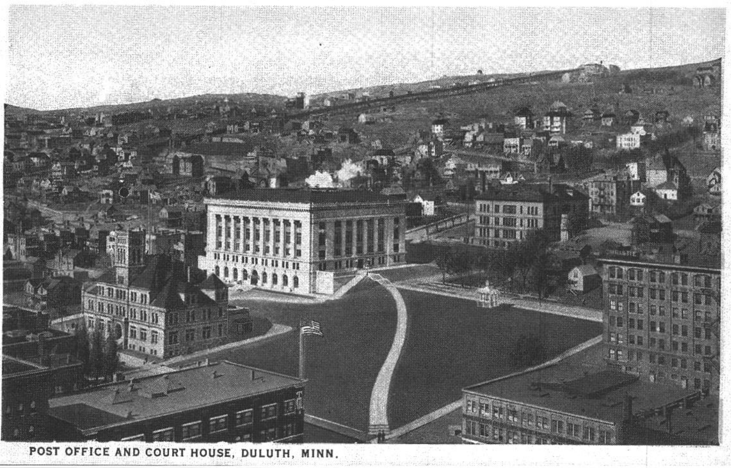


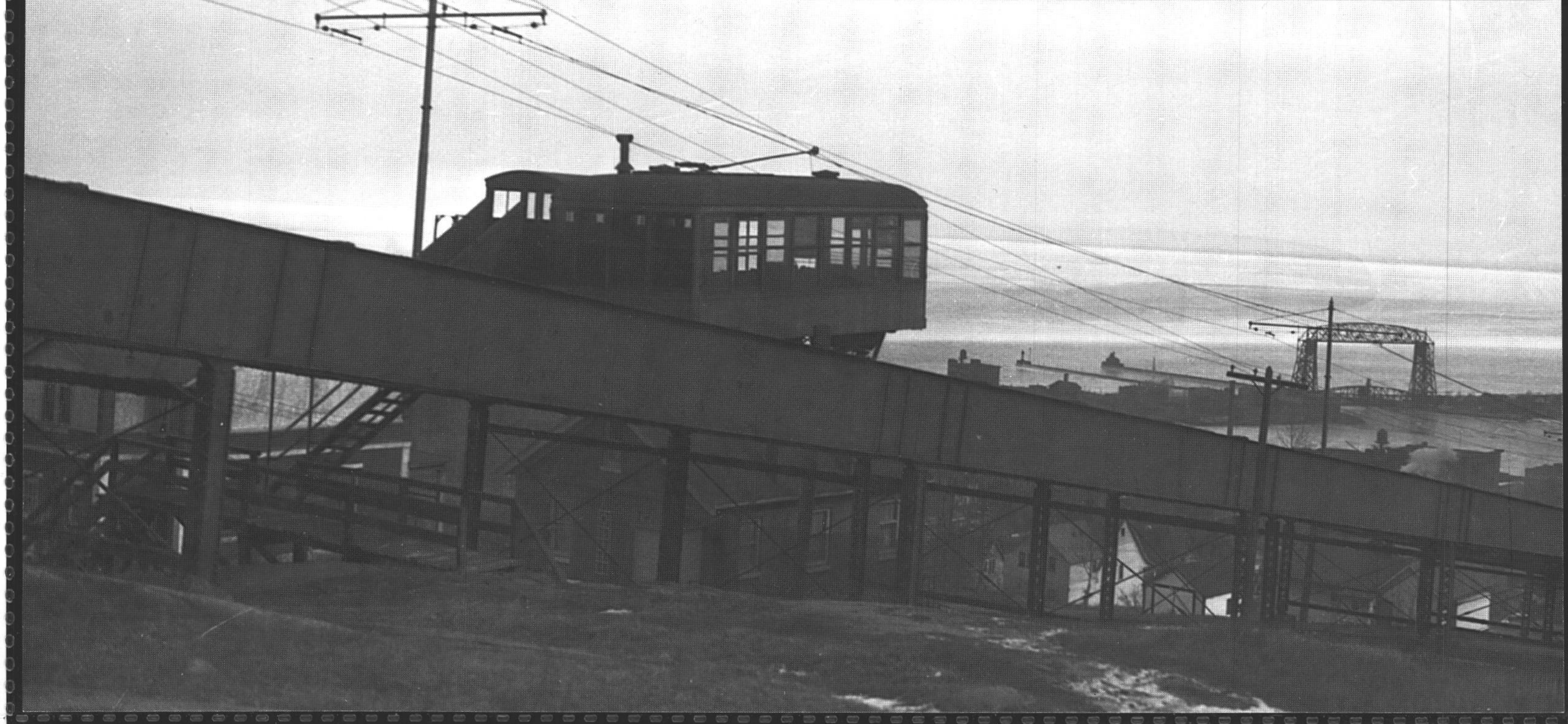
Opposite page top: The incline occupied the right of way of what would otherwise have been 7th Avenue West. Note the sidewalk at left. Minnesota Historical Society collection.

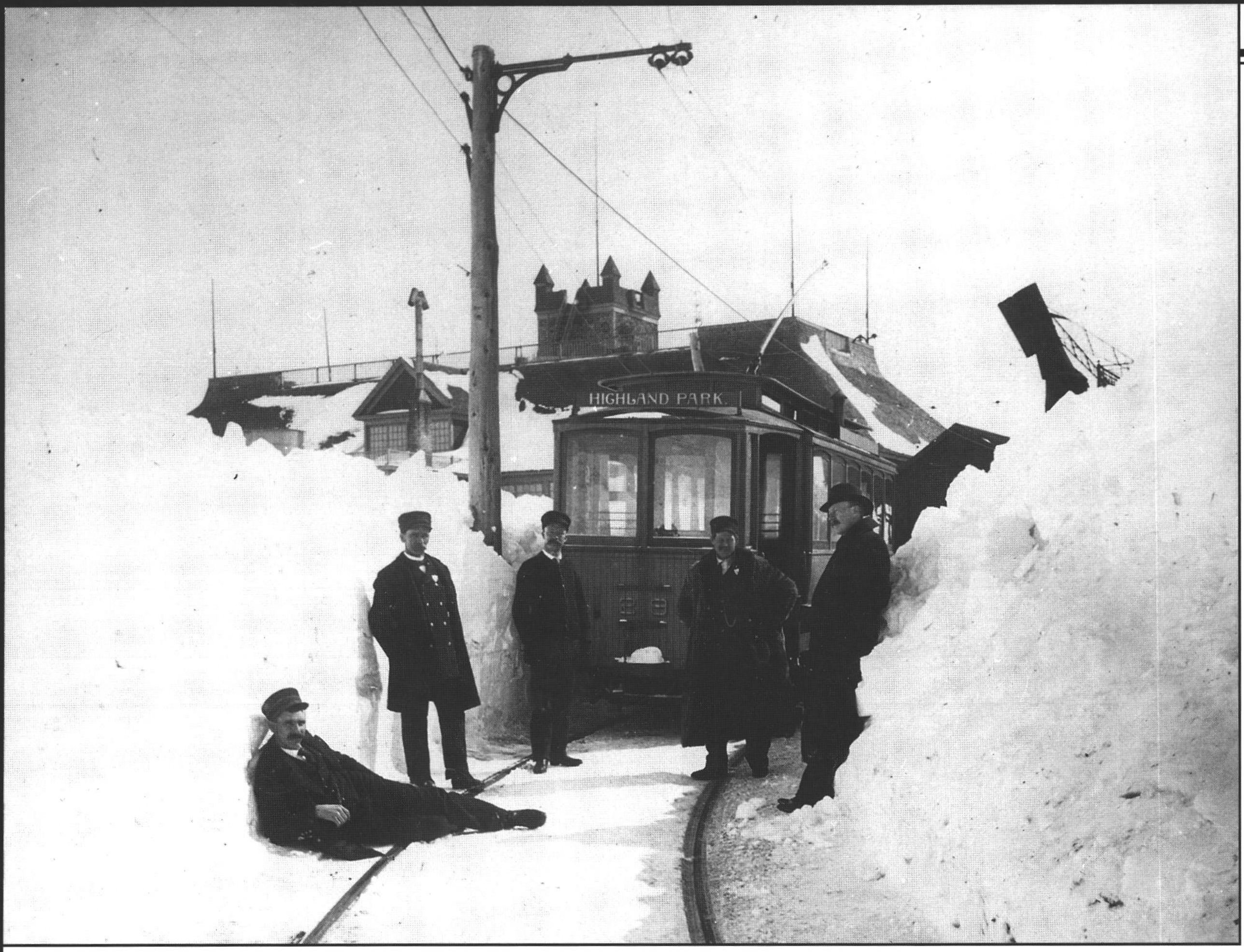
Opposite page bottom: Along the line in the 1930s. Crossing Street, and higher on the hill, with the lift bridge far below.

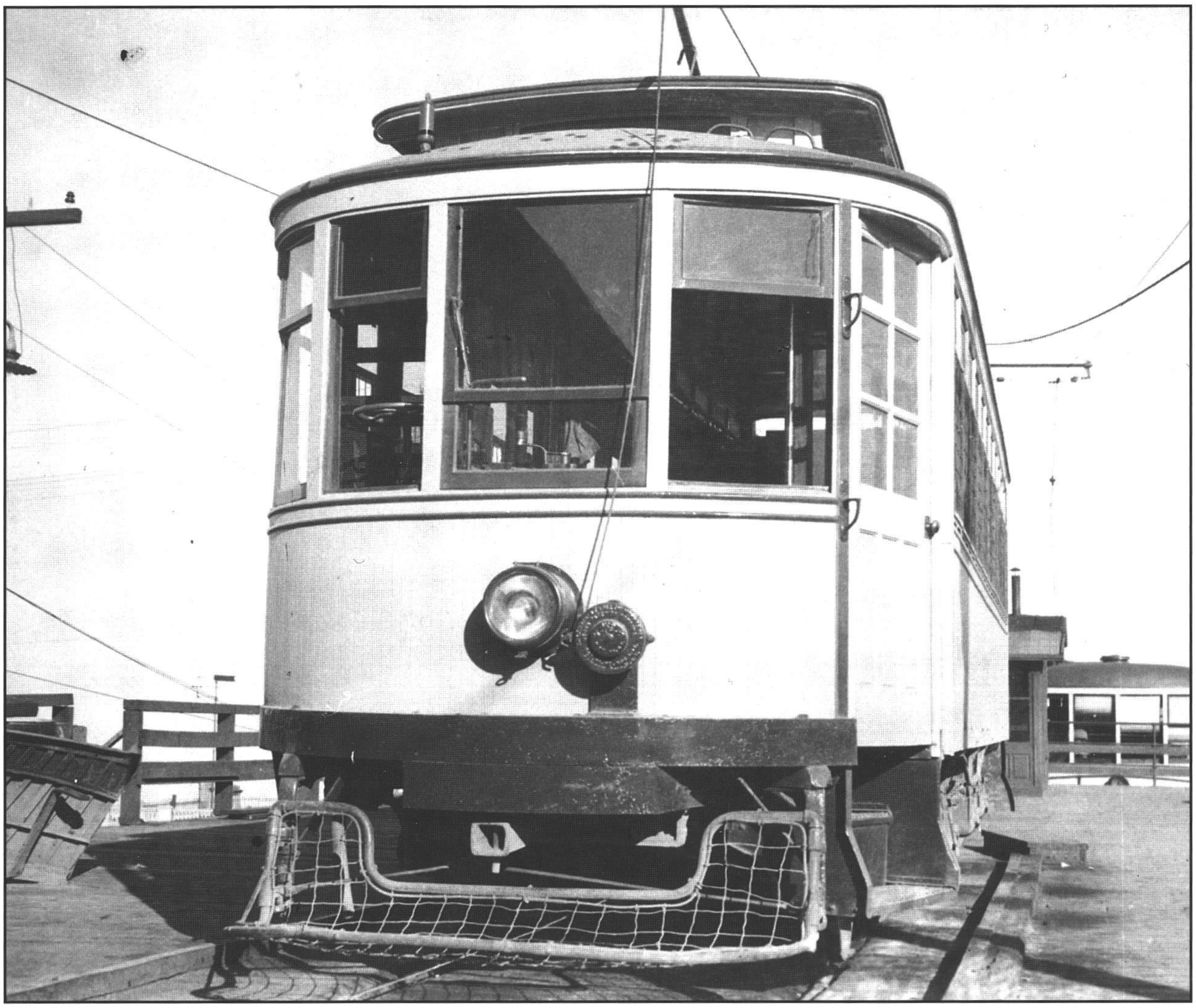
Above: This view shows the steeply angled undercarriage and running gear. The car is less than a block above Superior Street. Both Wayne C. Olsen collection.

Right: This color postcard looks up the incline from the middle of downtown Duluth. MTM collection.






HIGHLAND PARK.



Top left: The isolated Highland streetcar line ended at the top of the incline. This view, showing the original pavilion, dates from about 1895. North East Minnesota Historical Society collection.

After the pavilion burned, the upper terminus was a simple platform on stilts. The regular Highland cars from 1913 until abandonment were #255 and #256. Minnesota Historical Center collection.

Top right: It's 1939 and the end is near for both the incline and the entire Duluth streetcar system. North East Minnesota Historical Center collection.

This view looks straight east from the incline station, and shows the Highland carbarn at right and the Highland line itself turning first left, then right across the photo. During the streetcar era, there was never much development on top of the hill.

In 1901 as Twin City Rapid Transit #868 and F69 they ran in Stillwater local service. TCRT rebuilt them as double-enders for Highland service.

DSR

CONSOLIDATION AT DULUTH The street railway systems of the cities of Duluth Minn and Superior Wis comprising about 73 miles of track have been consolidated under the title of the Du luth Superior Traction Company incorporated under the laws of Connecticut with a capital stock of $5,000,000 divided into $1,500,000 4 per cent preferred stock and $3,500,000 common stock Both properties have been in the hands of receivers but the receiverships have now been discharged The property of the Superior Rapid Transit Company has been conveyed to the Duluth Street Railway Company which company has authorized an issue of $2,500,000 first mortgage and collateral trust 5 per cent 30 year bonds of which amount $500 000 are to remain in the treasury for future improvements etc The holders of old first mortgage bonds upon each property will have the opportunity of even exchange for the new bonds and the larger part of them have accepted the offer The consolidated bonds upon the Duluth property were all deposited with Brown Bros & Co under an agreement to receive in exchange therefor 110 per cent in new preferred stock and 90 per cent in new common stock The Central Trust Company of New York is trustee under the mortgage securing the new bonds and also registrar of the stock The Farmers Loan and Trust Company of New York is transfer agent for the stock

Electrical World Vol 36   8-25-1900

DULUTH, MINN.

Population in 1880, 838, in 1890, 33,115, in 1897 (local estimates), 60,000.

Duluth Street Railway Co.—Chartered Oct. 25, 1881, in perpetuity; franchise granted Nov. 17, 1881; road opened Nov. 1, 1882. This company operates the property of the Motor Line Improvement Co. and the Lakeside Ry. Co. In July, 1898, this property was placed in the hands of a receiver.

Capital Stock, authorized and issued, $2,000,000.

Funded Debt.—First consolidated mortgage bonds, authorized and issued, $1,000,000; coupon, but may be registered; dated Jan. 1, 1890, due 1930; denom. $1,000; int. 6 p. c. on $100,000 and 5 p. c. on $900,000, payable Jan. and July.

Consolidated mortgage 5 p. c. gold bonds, authorized, $2,500,000, issued $1,000,000, in escrow (see Note), $1,000,000; coupon, but may be registered; dated July 1, 1894, due 1924; denom. $1,000; int. payable Jan. and July, at office of Manhattan Trust Co., of New York, trustee of mortgage.

Note.—$1,000,000 of the consolidated mortgage bonds (of 1924) are held in escrow to retire the first consolidated mortgage bonds at maturity. $1,000,000 are now outstanding. The remaining $500,000 are held in trust, and may be issued for betterments and extensions only when the net earnings for the preceding twelve months have been equal to the interest upon both the outstanding bonds and the bonds proposed to be issued.

Operation.—Year ending June 30,

	1895.	1896.	1897.	1898.
Gross earnings................	$213,605	$219,927	$202,031	$201,840
Op. exp., incl'dg taxes and all other fixed charges, except int.	97,336	99,062	110,155	103,419
Earnings from operation......	$116,269	$120,865	$91,876	$98,421

Plant and Equipment.—Miles of track, 36.1; operated by electricity, 35, by cable, 1.1; gauge, 4 ft. 8½ in.; 45 lb. and 60 lb. girder and T rail; 60 motor cars, Allis engines, Gen. Elec. and West. dynamos and motors, Laclede and Northern cars.

Officers.—Receiver and Pres. L. Mendenhall, V. Pres. G. G. Hartley, Sec. & Treas. T. W. Hoopes, Gen. Man. Supt. & Pur. Agt. Herbert Warren, Audr. S. L. Reichert, Ch. Engr. of Power Station John Carson, Mast. Mech. W. J. Smith, Roadmaster T. Armstrong.

Bankers and Brokers handling the securities of this company, are Sydney L. Wright, of Phila., Pa.

References.—Description of road, Vol. VII, Feb., '91, p. 64 (ill.); description of parks (brief), Vol. XIII, Mar., '97, p. 152.

General Office, 11th Ave. W. & Michigan St.

Date of information, Feb., 1899. d x

Lakeside Railway Co.—This company is operated by the Duluth Street Ry. Co.

Capital Stock, authorized and issued, $100,000.

Plant and Equipment.—Miles of track (electric), 8; gauge, 4 ft. 8½ in.; 45 lb. T rail; 6 motor cars.

Officers.—Pres. Charles R. Haines, V. Pres. Charles H. Graves, Sec. Treas. & Gen. Man. J. B. Greenfield.

Date of information, Dec., 1898. d

Interstate Traction Co.—This company is a reorganization of the Minnesota Point Street Railway, chartered June, 1887, for 50 years. Annual meeting first Tuesday in May. This company expects to equip its lines with electricity in the spring of 1899.

Capital Stock, authorized, $100,000, issued, $74,000.

Funded Debt.—None.

Plant and Equipment.—Miles of track (horse), 3.50; gauge, 3 ft. 6 in.; 24 lb. T rail; 12 to 15 horses, 6 horse cars.

Officers.—Pres. and Gen. Man. R. R. Dunn, V. Pres. H. O. Underwood, Sec. & Treas. A. W. Hartman.

General Office, 10 Mesuba Block, Duluth, Minn.

Date of information, May, 1899. c d z

Motor Line Improvement Co.—Chartered Feb. 6, 1890, for 20 years; road opened May 1, 1891. Annual meeting first Monday in Jan. This company is operated by the Duluth Street Ry. Co.

Capital Stock, authorized, $300,000, issued, $150,000; par value, $100 per share.

Funded Debt.—First mortgage 7 p. c. coupon bonds, $200,000; dated, 1891; denom. $1,000; int. payable Jan. and July, at National Bank of the Republic, of New York. The bonds are secured by trust deed on 4,000 acres of land and upon the railroad; trustee, A. R. Macfarlane.

Plant and Equipment.—Miles of track (electric), 6; gauge, 4 ft. 8½ in.; 45 lb. T rail; 4 motor cars; Gen. Elec. dynamos and motors; Laclede cars.

← 5.94 MILES

Officers.—Pres. G. G. Hartley, V. Pres. J. D. Stryker, Sec. T. W. Hoopes, Treas. A. R. Macfarlane, Gen. Mans. Mendenhall and Hoopes.

Directors.—G. G. Hartley, J. D. Stryker, A. R. Macfarlane, H. W. Coffin, Joseph Sellwood, R. M. Hunter, I. D. Eusi, Jr., A. A. Mendenhall, J. M. Billson, J. B. Howard, Duluth, Minn.; J. A. Willard, Mankato, Minn.

General Office, 12 3d Ave. West.

Date of information, Feb., 1898. d z

WEST SUPERIOR, WIS.

Population in 1890, 11,983.

Superior Rapid Transit Railway Co.—Chartered Aug. 1, 1892. On Jan. 28, 1896, this property was placed in the hands of receivers.

CAPITAL STOCK, authorized and issued, $1,000,000.

FUNDED DEBT.—First mortgage 6 p. c. gold bonds, authorized, $650,000, issued, $250,000; coupon, but may be registered; dated Aug. 1, 1892, due 1912, but subject to call at 102 and interest Aug. 1, 1902; denom. $1,000; int. payable Feb. and Aug. at office of Central Trust Co., of New York, trustee of mortgage.

NOTE.—The bonds already issued ($250,000) are stamped "Series A." The mortgage provides that the next $200,000 shall be stamped "Series B," and shall not be issued until the net earnings for the preceding twelve months shall be equal to $27,000, an amount sufficient to pay interest on both series. The last $200,000 authorized shall be stamped "series C," and may be issued when the net earnings for the preceding twelve months shall amount to $40,000, equivalent to more than enough to pay the interest on the entire mortgage issued. None of the bonds of series B and C may be issued except for extensions, at a rate not exceeding $20,000 per mile of track and $5,000 per mile for equipment. The three series, when issued, are to be equal liens against the property.

A sinking fund has been established (by the provisions of the mortgage deed) to which $10,000 has already been passed, and further sums ranging from $5,000 in 1893, to $20,000 in 1912, are to be annually placed in the hands of the trustees.

$18,000 of the first mortgage bonds of 1892 are held in escrow to retire $17,000 of a prior lien still outstanding, dated July 1, 1891, due 1911.

It is reported that there is a second mortgage on this property, interest on which is in default.

OPERATION.—For the year ending Dec. 31, 1897, the gross earnings of the company are reported as $92,370.

PLANT AND EQUIPMENT.—Miles of track (electric), 26; gauge, 3 ft. 6 in.; 35 lb. T rail; 35 cars, of which 25 are motor cars and 10 trail cars.

OFFICERS.—Receiver, Pres. & Gen. Man. S. T. Norvell, Sec. & Treas. Griffith Chadwick, Supt. H. M. Sloan, Ch. Engr. of Power Station A. L. Gay.

Date of information, Jan., 1898.

DULUTH, MINN.

Population in 1880, 838, in 1890, 33,115, in 1900, 52,969.

Duluth-Superior Traction Co.—Incorporated in Connecticut in June, 1900, as a consolidation of the Duluth Street Ry., the Lakeside Street Ry. and the Superior Rapid Transit Ry. Co. of West Superior, Wis. The securities of the constituent companies were retired, but the corporate existence of the Duluth Street Ry. Co. is to be maintained, all of its capital stock being owned by the new company. The new company has a traffic agreement with the Duluth-Superior Bridge Co., at West Superior, and commenced operating all the electric railways in both cities on Aug. 13, 1900.

Capital Stock.—Common, authorized and issued, $3,500,000; preferred 4 p. c. cumulative, authorized, $1,500,000, issued, $1,300,000; par values, $100 per share.

Funded Debt.—Duluth Street Ry. Co.'s first mortgage 5 p. c. gold bonds, authorized, $2,500,000, issued, $2,000,000; coupon, but may be registered; dated May 1, 1900, due 1930; denom. $1,000; int. payable May and Nov., at office of Central Trust Co. of New York, trustee of mortgage.

Note.—$5,000,000 of these bonds are held in treasury for future improvements. The mortgage covers all the properties of the Duluth-Superior Traction Co., they having first been conveyed to the Duluth Street Ry. Co.

Operation.—Of Duluth Street Ry. only for year ending June 30,

	1897.	1898.	1899.	1900.
Gross earnings..............	$202,031	$201,840	$205,856	$266,956
Op. exp., incl'dg taxes and all other fixed charges, except int.	110,155	103,419	103,663	139,626
Earnings from operation......	$91,876	$98,421	$102,193	$127,330

Plant and Equipment.—Miles of track (electric), 73; gauge, 4 ft. 8½ in.; 45 lb. and 60 lb. girder and T rail; 100 motor cars, Allis engines, Gen. Elec. and West. dynamos and motors, Laclede and Northern cars.

Officers.—Pres. C. G. Goodrich, Sec. & Treas. L. Mendenhall, Audr. S. L. Reichert, Gen. Man. H. Warren, Ch. Engr. J. Carson.

General Office, 1108 No. Michigan St., Duluth, Minn.

Power Stations, Duluth, Minn., and West Superior, Wis.

References.—Systems consolidated, Vol. XVI, Aug. 25, '00, p. 781.

Date of information, Feb., 1901. d x

Duluth Street Railway Co.—Chartered Oct. 25, 1881, in perpetuity; franchise granted Nov. 17, 1881; road opened Nov. 1, 1882. This company operated the property of the Motor Line Improvement Co. and the Lakeside Ry. Co., until in July, 1898, it was placed in the hands of a receiver, and on Aug. 13, 1900, was consolidated with the Duluth-Superior Traction Co.

References.—Description of road, Vol. VII, Feb., '91, p. 64 (ill.); description of parks (brief), Vol. XIII, Mar., '97, p. 152.

Date of information, Feb., 1901. d x

Interstate Traction Co.—This company is a reorganization of the Minnesota Point Street Railway, chartered June, 1887, for 50 years. Annual meeting Apr. 15th. This company recently equipped its lines with electricity.

Capital Stock, authorized, $50,000, issued, $20,000.

Funded Debt.—First mortgage 6 p. c. gold bonds, authorized, $50,000, issued, $20,000; dated May, 1899, due 1919; denom. $500; int. payable May and Nov. at office of St. Paul Title & Trust Co., of St. Paul, Minn., trustee of mortgage.

Operation.—Year ending Oct. 31,

	1899.	1900.
Total receipts............................	$5,255	$8,640
Operating expenses....................	2,913	6,445
Earnings from operation..............	2,342	2,195
Deductions from earnings. Interest.........	900	1,242
Net income...............................	1,442	953

Balance Sheet.—Dated Oct. 31,

ASSETS.	1899.	1900.
Cost of road and equipment..........	$35,309	$36,692
Real estate...............................		4,353
Cash.......................................	1,142	294
Total	$36,451	$41,339
LIABILITIES.		
Capital stock.............................	$20,000	$20,000
Funded debt...............................	16,000	20,000
Profit and loss (surplus)................	451	1,339
Total.......................................	$36,451	$11,339

Plant and Equipment.—Miles of track (electric), 3.50; gauge, 4 ft. 8½ in.; 35 lb. T rail; 4 motor cars and 4 trail cars; power purchased.

Officers.—Pres. and Gen. Man. Robert R. Dunn, V. Pres. H. O. Underwood, Sec. & Treas. A. W. Hartman.

Directors.—Robert R. Dunn, H. O. Underwood, O. C. Hartman, A. W. Hartman, C. F. Hartman.

General Office, 216 West Superior St., Duluth, Minn.

Date of information, Jan., 1901. z

Woodland Railway Co.—This company is the successor to the Motor Line Improvement Co., having purchased their property at foreclosure sale. This road is operated by the Duluth Street Ry. Co.

Capital Stock.—Common, authorized, $10,000, issued, $5,500. Preferred 5 p. c. class "A" authorized, $5,000, issued, $1,795. Preferred 3 p. c. class "B" authorized, $25,000, issued, $23,200; par value, all shares, $10 per share.

Plant and Equipment.—Miles of track (electric), 6; gauge, 4 ft. 8½ in.; 45 lb. T rail; 4 motor cars; Gen. Elec. dynamos and motors; Laclede cars.

Officers.—Pres. T. W. Hoopes, Sec. James Bardon, Treas. R. M. Hunter.

General Office, 11th Ave. West & Michigan St., Duluth, Minn.

Date of information, Feb., 1901. z

POOR'S 1901

Duluth Street Ry.—Length of tracks, 49.22 m. (13.38 m. operated), of which 1¼ m. are operated by cable, and 48.10 m. by electricity; 25.41 m. streets. Gauge, 4 ft. 8½ in. Rail (T and girder), 45 and 60 lb 70 cars (2 grip, 66 motor, and 2 trail); 2 power stations (1 electric and 1 incline plane). Incorp. Oct. 25, 188 franchise Nov. 17, 1881; road opened in Nov., 1882. Charter gives exclusive rights on all streets. Operates the property of the Motor Line Improvement Co. and the Lakeside Ry. Co., and has the power to purchase the property of the latter company at any time for cost. On July 7, 1898, the president of the company was ap-pointed receiver on application of a director.

Operations, year ending Dec. 31, 1899.—Gross earnings, $214,514. Operating expenses, $103,510. Net earnings, $111,064.

Financial Statement, May 1, 1900.—Capital stock (auth. and issued), $300,000. Funded debt outstanding consists of $100,000 1st mtge. 6 p. c. 30-yr. bonds, due Jan. 1, 1920, interest Jan. and July, at Minneapolis, Minn.; $833,000 1st mtge. 5 p. c. 30-yr. bonds, due Jan. 1, 1920, interest Jan. and July, at Minneapolis, Minn.; and $1,123,000 consol. 5 p. c. 30-yr. $1,000 gold bonds, due July 1, 1924 (of which $26,000 in treasury unsold), interest payable Jan. and July, at the office of the trustee, Manhattan Trust Co., New York, N. Y.—total bonds, $2,056,000. The authorized amount of consols of 1924 is $2,500,000, of which $933,000 are reserved for prior liens and $444,000 are held in trust for future betterments and extensions. None of these latter can at any time be issued except for actual property acquired or additions made; and only when the net earnings of the company for the preceding 12 months have been at least equal to the interest upon all outstanding bonds, and also upon the amount proposed to be issued. Trustee of 5s and 6s of 1920: [illegible] Trust Co., Minneapolis, Minn.

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Directors.—E. V. Douglas, W. P. Douglas, Chas. S. Hinchman, Chas. B. Dunn, Philadelphia, Pa.; John H. Davis, New York, N. Y.; Thomas Lowry, Minneapolis, Minn.; Joseph Selwood, G. G. Hartley, L. Mendenhall, Duluth, Minn. Officers: L. Mendenhall, Rec. & Pres.; G. G. Hartley, Vice-Pres.; T. W. Hoopes, Sec. & Treas.; Herbert Warren, Gen. Mgr., Duluth, Minn. General Office, Duluth, Minn.

RAILROADS OPERATED BY THE DULUTH STREET RY. CO.

LAKESIDE RY.—Length of line, 7.5 miles. Gauge, 4 ft. 8½ in. Rail (T), 45 lbs. Operated by Duluth Street Ry. Co. Capital stock, $100,000. Recently purchased by Thomas Lowry, Minneapolis, Minn. General Office, Duluth, Minn.

WOODLAND CO.—Length of track, 5.96 miles. Gauge, 4 ft. 8½ in. Rail (T), 45 lbs. Successor, after foreclosure sale, to the Motor Line Improvement Co. (see Manual for 1899, page 1005). Operated by the Duluth Street Ry. Co. Capital stock ($10 shares) authorized—common, $10,000; preferred 6 p. c. Class A, $5,000; preferred 3 p. c. Class B, $25,000—total authorized, $40,000; issued—common, $5,500; Class A preferred, $1,795; Class B preferred, $23,204—total issued, $30,499. T. W. Hoopes, Pres.; R. M. Hunter, Treas.; James Bardon, Sec., Duluth, Minn. General Office, Duluth, Minn.

Interstate Traction Co.—Length of line, 3.25 m.; total track, 3.75 miles. Gauge, 4 ft. 8½ in. Rail (T), 35 lbs. Cars (motor, 4; trail, 2), 6. Chartered in May, 1898, as successor after foreclosure sale, to the Minnesota Point Street Ry. Co. (see Manual for 1897, page 1024). Operated as an electric line, July 1, 1899. Power furnished by Commercial Light and Power Co.

Operations, year ending Dec. 31, 1899.—Passengers carried, 105,031. Earnings (passenger), $5,252. Operating expenses and taxes, $2,913. Net earnings, $2,339. Paid interest on bonds, $960. Surplus, $1,379.

Financial Statement, Jan. 1, 1900.—Capital stock (auth., $50,000; $100 shares), $20,000; funded debt issued and outstanding (1st mtge. 6 p. c. 10-yr. $500 gold coupon bonds, due 1909, interest May and Nov., at office of the trustee, the St. Paul Title and Trust Co., St. Paul, Minn.; auth., $50,000), $20,000—total, representing cost, $40,000.

Directors.—Robert R. Dunn, St. Paul, Minn.; Henry O. Underwood, Boston, Mass.; A. W. Hartman, O. C. Hartman, C. F. Hartman, Duluth, Minn. Officers: Robert R. Dunn, Pres., St. Paul, Minn.; Henry O. Underwood, Vice-Pres., 52 Fulton St., Boston, Mass.; A. W. Hartman, Treas. & Mgr.; O. C. Hartman, Sec., Duluth, Minn. General Office, Duluth, Minn.

1900

DUBUQUE, IA.

Population in 1880, 22,254, in 1890, 30,311, in 1895 (state census), 40,653.

Star Electric Co.—This company owns the property of the Dubuque Street Railway Co., which was chartered Apr. 25, 1867. Charter renewed Apr. 25, 1892, for 25 years, and extended July 29, 1897 to 1947, and also owns an extensive electric lighting and power plant, all of which are to be consolidated at an early date.

PLANT AND EQUIPMENT.—Miles of track (electric), 14; gauge, 4 ft. 8½ in.; 52 lb. girder rail; 25 cars, of which 15 are motor cars and 10 trail cars; Sioux City engines, Edison 200 K. W. generators, West and Gen. Elec. motors, Brill, St. Louis and own cars.

OFFICERS.—Pres. B. E. Linehan, Sec. & Treas. W. S. Molo, Gen. Man. & Pur. Agt. D. Thomson, Ch. Engr. L. A. Pitts, Ch. Engr. of Power Station Louis Pitts.

Date of information, Feb., 1900. z

Home Electric Co.—This company is the successor by purchase of the Dubuque Light & Traction Co., which was a consolidation (1893) of the Dubuque Electric Ry., Light & Power Co. (inc. 1889) and the Eighth Street & West Dubuque Street Ry. Co.

CAPITAL STOCK, authorized and issued, $100,000; par value, $100 per share.

PLANT AND EQUIPMENT.—Miles of track (electric), 10.5; gauge, 4 ft. 8½ in.; 52 lb. Johnson girder rail; 23 cars, of which 16 are motor cars and 7 trail cars; Gen. Elec. and West. dynamos and motors.

OFFICERS.—Pres. D. D. Myers, V. Pres. John Ellwanger Sec. & Treas. G. W. Kiesel, Gen. Man. W. J. Brown.

DIRECTORS.—B. W. Lacy, F. D. Stout, D.D. Myers, W. J. Brown, John Ellwanger, Geo. W. Kiesel, H. Parsons.

REFERENCES.—Sale, Vol. IX, Apr., '93, p. 270; receivership, Vol. XI, Jan., '95, p. 59.

Date of information, Feb., 1900. z

DULUTH, MINN.

Population in 1880, 838, in 1890, 33,115, in 1897 (local estimates), 60,000.

Duluth Street Railway Co.—Chartered Oct. 25, 1881, in perpetuity; franchise granted Nov. 17, 1881; road opened Nov. 1, 1882. This company operates the property of the Motor Line Improvement Co. and the Lakeside Ry. Co. In July, 1898, this property was placed in the hands of a receiver, and the property has lately come into the control of Thomas Lowry and associates, of Minneapolis.

Capital Stock, authorized and issued, $2,000,000.

Funded Debt.—First consolidated mortgage bonds, authorized and issued, $1,000,000: coupon, but may be registered; dated Jan. 1, 1890, due 1920; denom. $1,000; int. 6 p. c. on $100,000 and 5 p. c. on $900,000, payable Jan. and July.

Consolidated mortgage 5 p. c. gold bonds, authorized, $2,500,000, issued $1,000,000, in escrow (see Note), $1,000,000; coupon, but may be registered; dated July 1, 1894, due 1924; denom. $1,000; int. payable Jan. and July, at office of Manhattan Trust Co., of New York, trustee of mortgage.

Note.—$1,000,000 of the consolidated mortgage bonds (of 1924) are held in escrow to retire the first consolidated mortgage bonds at maturity. $1,000,000 are now outstanding. The remaining $500,000 are held in trust, and may be issued for betterments and extensions only when the net earnings for the preceding twelve months have been equal to the interest upon both the outstanding bonds and the bonds proposed to be issued.

Operation.—Year ending June 30,

	1896.	1897.	1898.	1899.
Gross earnings...............	$219,927	$202,031	$201,840	$205,856
Op. exp., incl'dg taxes and all other fixed charges, except int.	99,062	110,155	103,419	103,663
Earnings from operation......	$120,865	$91,876	$98,421	$102,193

Plant and Equipment.—Miles of track, 36.1; operated by electricity, 35, by cable, 1.1; gauge, 4 ft. 8½ in.; 45 lb. and 60 lb. girder and T rail; 60 motor cars, Allis engines, Gen. Elec. and West. dynamos and motors, Laclede and Northern cars.

Officers.—Receiver and Pres. L. Mendenhall, V. Pres. G. G. Hartley, Sec. & Treas. T. W. Hoopes, Gen. Man. Supt. & Pur. Agt. Herbert Warren, Audr. S. L. Reichert, Ch. Engr. of Power Station John Carson, Mast. Mech. W. J. Smith, Roadmaster T. Armstrong.

References.—Description of road, Vol. VII, Feb., '91, p. 64 (ill.); description of parks (brief), Vol. XIII, Mar., '97, p. 152.

General Office, 11th Ave. W. & Michigan St.

Date of information, Mar., 1900. d x

Interstate Traction Co.—This company is a reorganization of the Minnesota Point Street Railway, chartered June, 1887, for 50 years. Annual meeting Apr. 15th. This company recently to equipped its lines with electricity.

Capital Stock, authorized, $50,000, issued, $20,000.

Funded Debt.—First mortgage 6 p. c. gold bonds, authorized, $50,000, issued, $16,000; dated May, 1899, due 1919; denom. $500; int. payable May and Nov. at office of St. Paul Title & Trust Co., of St. Paul, Minn., trustee of mortgage.

Operation.—Year ending Oct. 31, 1899.

Total receipts..........................	$5,255
Operating expenses..........................	2,913
Earnings from operation..........................	2,342
Deductions from earnings.	
Interest..........................	900
Net income..........................	1,442

Balance Sheet.—Dated Oct. 31, 1899.

Assets.		Liabilities.	
Cost of road and equip...	$35,309	Capital stock............	$20,000
Cash..................	1,142	Funded debt.........	16,000
		Profit and loss (surplus)...	451
Total..............	$36,451	Total..............	$36,451

Plant and Equipment.—Miles of track (electric), 3.50; gauge, 4 ft. 8½ in.; 35 lb. T rail; 6 cars, of which 4 are motor cars and 2 trail cars; power purchased.

Officers.—Pres. and Gen. Man. R. R. Dunn, V. Pres. H. O. Underwood, Sec. & Treas. A. W. Hartman.

Directors.—Robert R. Dunn, H. O. Underwood, O. C. Hartman, A. W. Hartman, C. F. Hartman.

General Office, 10 Mesuba Block, Duluth, Minn.

Date of information, Jan., 1900. z

Woodland Railway Co.—This company is the successor to the Motor Line Improvement Co., having purchased their property at foreclosure sale. This road is operated by the Duluth Street Ry. Co.

Capital Stock.—Common, authorized, $10,000, issued, $5,500. Preferred 5 p. c. class "A" authorized, $5,000, issued, $1,795. Preferred 3 p. c. class "B" authorized, $25,000, issued, $23,200; par value, all shares, $10 per share.

Plant and Equipment.—Miles of track (electric), 6; gauge, 4 ft. 8½ in.; 45 lb. T rail; 4 motor cars; Gen. Elec. dynamos and motors; Laclede cars.

Officers.—Pres. T. W. Hoopes, Sec. James Bardon, Treas. R. M. Hunter.

General Office, 11th Ave. West & Michigan St., Duluth, Minn.

Date of information, Feb., 1900. x

WEST SUPERIOR, WIS.

Population in 1890, 11,983.

Superior Rapid Transit Railway Co.—Chartered Aug. 1, 1892. On Jan. 28, 1896, this property was placed in the hands of receivers.

CAPITAL STOCK, authorized and issued, $1,000,000.

FUNDED DEBT.—First mortgage 6 p. c. gold bonds, authorized, $650,000, issued, $250,000; coupon, but may be registered; dated Aug. 1, 1892, due 1912, but subject to call at 102 and interest Aug. 1, 1902; denom. $1,000; int. payable Feb. and Aug. at office of Central Trust Co., of New York, trustee of mortgage.

NOTE.—The bonds already issued ($250,000) are stamped "Series A." The mortgage provides that the next $200,000 shall be stamped "Series B," and shall not be issued until the net earnings for the preceding twelve months shall be equal to $27,000, an amount sufficient to pay interest on both series. The last $200,000 authorized shall be stamped "series C," and may be issued when the net earnings for the preceding twelve months shall amount to $40,000, equivalent to more than enough to pay the interest on the entire mortgage issued. None of the bonds of series B and C may be issued except for extensions, at a rate not exceeding $20,000 per mile of track and $5,000 per mile for equipment. The three series, when issued, are to be equal liens against the property.

A sinking fund has been established (by the provisions of the mortgage deed) to which $10,000 has already been passed, and further sums ranging from $5,000 in 1893, to $20,000 in 1912, are to be annually placed in the hands of the trustees.

$18,000 of the first mortgage bonds of 1892 are held in escrow to retire $17,000 of a prior lien still outstanding, dated July 1, 1891, due 1911.

It is reported that there is a second mortgage on this property, interest on which is in default.

OPERATION.—For the year ending Dec. 31, 1897, the gross earnings of the company are reported as $92,370.

PLANT AND EQUIPMENT.—Miles of track (electric), 26; gauge, 3 ft. 6 in.; 35 lb. T rail; 35 cars, of which 25 are motor cars and 10 trail cars.

OFFICERS.—Receiver, Pres. & Gen. Man. S. T. Norvell, Sec. & Treas. Griffith Chadwick, Supt. H. M. Sloan, Ch. Engr. of Power Station A. L. Gay.

Date of information, Jan., 1900. z

DULUTH.

Population in 1900, 52,969; West Superior, 31,091.

Duluth-Superior Traction Co.—Incorporated in Connecticut in June, 1900, as a consolidation of the Duluth Street Ry., the Lakeside Street Ry. and the Superior Rapid Transit Ry. Co. of West Superior, Wis. The securities of the constituent companies were retired, but the corporate existence of the Duluth Street Ry. Co. is to be maintained, all of its capital stock being owned by the new company. The new company has a traffic agreement with the Duluth-Superior Bridge Co., at West Superior, and operates all the electric railways in both cities including Woodland Ry. Co.

Capital Stock.—Common, authorized and issued, $3,500,000; preferred 4 p. c. cumulative, authorized and issued, $1,500,000; par value, $100 per share.

Funded Debt.—Duluth Street Ry. Co.'s first mortgage 5 p. c. gold bonds, authorized, $2,500,000, issued, $2,200,000; coupon, but may be registered; dated May 1, 1900, due 1930; denom. $1,000; int. payable May and Nov., at office of Central Trust Co. of New York, trustee of mortgage.

Note.—$300,000 of these bonds are held in treasury for future improvements. The mortgage covers all the properties of the Duluth-Superior Traction Co., they having first been conveyed to the Duluth Street Ry. Co.

Operation.—Year ending Dec. 31,	1901.	1902.
Gross earnings	$453,704	$538,030
Op.exp.,incl'dg all fixed charges,except taxes & int.	251,315	288,373
Earnings from operation	202,389	249,657
Deductions from earnings, (including taxes)	109,967	116,275
Net income	92,422	133,382

Plant and Equipment.—Miles of track (electric), 74.45; gauge, 4 ft. 8½ in.; 45 lb. and 60 lb. girder and T rail; 107 motor cars, Allis engines, Gen. Elec. and West. dynamos and motors, Laclede and Northern cars.

Officers.—Pres. C. G. Goodrich, Minneapolis; V. Pres. J. H. Davis, New York; Sec. & Treas. L. Mendenhall, Audr. S. L. Reichert, Gen. Man. H. Warren, Pur. Agt. A. A. Mendenhall, Mast. Mech. W. J. Smith, Ch. Engr. J. Carson, Supt. Duluth Div. D. C. Moore, Supt. Superior Div. Alfred Williams.

General Office, 1108 W. Michigan St., Duluth, Minn.

Power Stations, Duluth, Minn., and West Superior, Wis.

References.—Systems consolidated, Vol. XVI, Aug. 25, '00, p. 781.

Date of information, Jan., 1903. z

Duluth Street Railway Co.—Chartered Oct. 25, 1881, in perpetuity; franchise granted Nov. 17, 1881; road opened Nov. 1, 1882. This company operated the property of the Motor Line Improvement Co. and the Lakeside Ry. Co., until in July, 1898, it was placed in the hands of a receiver, and on Aug. 13, 1900, was consolidated with the Duluth-Superior Traction Co.

References.—Description of park (brief), Vol. XVII, Feb. 2, '01, p. 188.

Date of information, Mar., 1902. z

Interstate Traction Co.—This company is a reorganization of the Minnesota Point Street Railway, chartered June, 1887, for 50 years. Annual meeting Apr. 15th.

Capital Stock, authorized, $50,000, issued, $20,000.

Funded Debt.—First mortgage 6 p. c. gold bonds, authorized, $50,000, issued, $20,000; dated May, 1899, due 1919; denom. $500; int. payable May and Nov. at office of St. Paul Title & Trust Co., of St. Paul, Minn., trustee of mortgage.

Operation.—Year ending Oct. 31,	1899.	1900.	1901.	1902.
Total receipts	$5,255	$8,640	$9,644	$15,627
Operating expenses	2,913	6,445	6,208	9,853
Earnings from operation	2,342	2,195	3,436	5,774
Deductions from earnings.				
Interest	900	1,242	1,190	1,200
Net income	1,442	953	2,246	4,574

Balance Sheet.—Dated Oct. 31,

ASSETS.	1899.	1900.	1901.	1902.
Cost of road and equipment	$35,309	$36,692	$37,860	$38,677
Real estate		4,353	4,501	*25,469
Cash	1,142	294	387	823
Total	$36,451	$41,339	$42,748	$64,969
LIABILITIES.				
Capital stock	$20,000	$20,000	$20,000	$20,000
Funded debt	16,000	20,000	20,000	20,000
Bills payable				18,000
Profit and loss (surplus)	451	1,339	2,748	6,969
Total	$36,451	$41,339	$42,748	$64,969

*The company purchased 124 acres of land at end of line, for which it gave notes for $18,000. These notes have since been funded into first mortgage bonds.

Plant and Equipment.—Miles of track (electric), 3.50; gauge, 4 ft. 8½ in.; 35 lb. T rail; 4 motor cars and 4 trail cars; power purchased.

Officers.—Pres. Robert R. Dunn, V. Pres. H. O. Underwood, Sec. & Treas. A. W. Hartman.

Directors.—Robert R. Dunn, H. O. Underwood, O. C. Hartman, A. W. Hartman, C. F. Hartman.

General Office, 216 West Superior St., Duluth, Minn.

Date of information, Mar., 1903. z

Woodland Railway Co.—This company is the successor to the Motor Line Improvement Co., and is now a part of Traction Co.

Capital Stock.—Common, authorized, $10,000, issued, $5,500. Preferred 5 p. c. class "A" authorized, $5,000, issued, $1,795. Preferred 3 p. c. class "B" authorized, $25,000, issued, $23,200; par value, all shares, $10 per share.

Plant and Equipment.—Miles of track (electric), 6; gauge, 4 ft. 8½ in.; 45 lb. T rail; 4 motor cars; Gen. Elec. dynamos and motors; Laclede cars.

Officers.—Pres. T. W. Hoopes, Sec. James Bardon, Treas. R. M. Hunter.

General Office, 11th Ave. West & Michigan St., Duluth, Minn.

Date of information, Jan., 1903. z

DULUTH.

Population in 1900, 52,969, in 1903, 57,397, in 1905 (estimated), 60,000; Superior, Wis. (estimated), 32,000.

Duluth-Superior Traction Co.—Incorporated in Connecticut in June, 1900. Not an operating company. This company owns all the capital stock of the Duluth Street Ry. Co.

CAPITAL STOCK.—Common, authorized and issued, $3,500,000; preferred 4 p. c. cumulative, authorized and issued, $1,500,000; par value, $100 per share.

FUNDED DEBT.—None.

OFFICERS.—Pres. C. G. Goodrich; Sec. & Treas. L. Mendenhall.

DIRECTORS.—Thomas Lowry, C. G. Goodrich, and Horace Lowry, Minneapolis, Minn.; M. D. Munn, St. Paul, Minn.; L. Mendenhall, Duluth, Minn.; Walter Hinchman, New York, N. Y.; Lynde Harrison, Paul W. Harrison and James E. O'Connor, New Haven, Conn.

GENERAL OFFICE, Duluth, Minn.

Date of information, Apr., 1905. z

DULUTH STREET RAILWAY CO.—Chartered in 1881 for 50 years. Annual meeting first Wednesday in July. This company is a consolidation of Duluth Street Ry. Co., Woodland Ry. Co., Lakeside Ry. Co. and Superior Rapid Transit Ry. Co. It has a traffic agreement with the Duluth-Superior Bridge Co., over which its cars are operated. The capital stock of this company is owned by the Duluth-Superior Traction Co.

CAPITAL STOCK, authorized, $1,500,000, issued, $300,000.

FUNDED DEBT.—First mortgage 5 p. c. gold bonds, authorized and issued, $2,500,000, coupon, but may be registered; dated May 1, 1900, due 1930; denom. $1,000; int. payable May and Nov., at office of Central Trust Co. of New York, trustee of mortgage.

OPERATION.—Year ending Dec. 31,

	1901.	1902.	1903.	1904.
Earnings from passengers			$617,185	$614,337
" " other sources			4,860	4,835
Gross earnings	$453,704	$538,030	622,045	619,172
Oper. exps. including all fixed charges, except taxes and int.	251,315	288,373	345,327	326,049
Gross income less oper. exps.	202,389	249,657	276,718	293,123
Deduct. from earn.(inc. taxes).	169,967	176,275	186,590	202,602
Net income	32,422	73,382	90,128	90,521

STATISTICS OF TRAFFIC.

Year ending Dec. 31, 1904.	
Revenue passengers carried	12,286,731
Transfers	1,748,097
Passenger car miles run	2,886,297

BALANCE SHEET.—Dated Dec. 31,

ASSETS.	1903.	1904.
Cost of road, equip. and other perm. invests.	$4,406,775	$4,590,655
Cash	2,781	52,423
Current assets	25,654	19,921
Total	$4,435,210	$4,662,999
LIABILITIES.		
Capital stock	$ 300,000	300,000
Funded debt	2,350,000	2,500,000
Unfunded debt	1,500,000	1,500,000
Current liabilities	71,439	63,203
Profit and loss (surplus)	213,771	299,796
Total	$4,435,210	$4,662,999

PLANT AND EQUIPMENT.—Miles of track (electric), 71.06; gauge, 4 ft. 8½ in.; 35 lb. to 80 lb. T rail; 104 motor cars; Allis & Cooper engines; Gen. Elec. and West. dynamos and motors; Laclede, Northern and Twin City cars; Brill and McGuire trucks.

OFFICERS.—Pres. C. G. Goodrich; Sec. & Audr. S. L. Reichert: Treas. L. Mendenhall; Gen. Man. Herbert Warren; Pur. Agt. A. A. Mendenhall; Mast. Mech. R. J. Cranford; Ch. Engr. John Carson; Supt. Duluth Div. D. C. Moore; Supt. Superior Div. Alfred Williams.

DIRECTORS.—Thomas Lowry and C. G. Goodrich, Minneapolis, Minn.; M. D. Munn, St. Paul, Minn.; G. G. Hartley, Joseph Sellwood, Herbert Warren, S. L. Reichert, T. W. Hoopes and L. Mendenhall, Duluth, Minn.

GENERAL OFFICE, 1108 W. Michigan St., Duluth, Minn.

POWER STATIONS AND REPAIR SHOPS, Duluth, Minn., and Superior, Wis.

REFERENCE.—Systems consolidated, Vol. XVI, Aug. 25, '00, p. 781.

Date of information, Apr., 1905. z

WOODLAND RAILWAY CO.—This road was built by the Motor Line Improvement Co., which was essentially a land company. The road and equipment were acquired by the Duluth Street Ry. Co. on Oct. 1, 1901.

PLANT AND EQUIPMENT.—Miles of track (electric), 6; gauge, 4 ft. 8½ in.; 45 lb. T rail.

Date of information, Apr., 1905. z

Interstate Traction Co.—This company is a reorganization of the Minnesota Point Street Railway, chartered June, 1887, for 50 years. Annual meeting Apr. 15th.

CAPITAL STOCK, authorized, $50,000, issued, $25,000.

FUNDED DEBT.—First mortgage 6 p. c. gold coupon bonds, authorized, $50,000, issued, $40,000; dated May, 1899, due 1919; denom. $500; int. payable May and Nov. at office of St. Paul Title & Trust Co., of St. Paul, Minn., trustee of mortgage.

First mortgage bonds may be called for payment at 6 months' notice at 104 and accrued interest.

OPERATION—Year ending Oct. 31,	1900.	1901.	1902.	Dec. 31, 1903.
Earnings from passengers				$15,839
" other sources				2,349
Gross income	$8,640	$9,644	$15,627	18,188
Operating expenses	6,445	6,208	9,853	15,298
Gross income less operating exps	2,195	3,436	5,774	2,890
Deductions from earnings.				
Interest	1,242	1,190	1,200	2,400
Net income	953	2,246	4,574	490

BALANCE SHEET.—Dated Oct. 31, ASSETS.	1900.	1901.	1902.	1903.
Cost of road and equipment	$36,692	$37,860	$38,677	$38,339
Other permanent investments				6,921
Real estate	4,353	4,501	*25,469	27,641
Cash	294	387	823	711
Bills and accounts receivable				2,886
Total	$41,339	$42,748	$64,969	$76,498
LIABILITIES.				
Capital stock	$20,000	$20,000	$20,000	$25,000
Funded debt	20,000	20,000	20,000	40,000
Bills payable			18,000	4,500
Profit and loss (surplus)	1,339	2,748	6,969	6,998
Total	$11,339	$42,748	$64,969	$76,498

*The company purchased 124 acres of land at end of line, for which it gave notes for $18,000. These notes have since been funded into first mortgage bonds.

PLANT AND EQUIPMENT—Miles of track (electric), 3.50; gauge, 4 ft. 8½ in.; 35 lb. T rail; 5 motor cars and 3 trail cars; power purchased.

PARKS AND AMUSEMENT RESORTS.—Oatka Beach.

OFFICERS.—Pres. Robert R. Dunn; V. Pres. H. O. Underwood; Sec. & Treas. A. W. Hartman.

DIRECTORS.—Robert R. Dunn, H. O. Underwood, O. C. Hartman, A. W. Hartman, C. F. Hartman.

GENERAL OFFICE, 216 West Superior St., Duluth, Minn.

Date of information, Apr., 1905.

DULUTH.

Population in 1900, 52,969, in 1903, 57,397, in 1905 (estimated), 65,000; Superior, Wis. (estimated), 35,000.

Duluth-Superior Traction Co.—Incorporated in Connecticut in June, 1900. Not an operating company. This company owns all the capital stock of the Duluth Street Ry. Co.

CAPITAL STOCK.—Common, authorized and issued, $3,500,000; preferred 4 p. c. cumulative, authorized and issued, $1,500,000; par value, $100 per share.

FUNDED DEBT.—None.

OFFICERS.—Pres. C. G. Goodrich; Sec. & Treas. L. Mendenhall.

DIRECTORS.—Thomas Lowry, C. G. Goodrich, and Horace Lowry, Minneapolis, Minn.; M. D. Munn, St. Paul, Minn.; L. Mendenhall, Duluth, Minn.; Walter Hinchman, New York, N. Y.; Lynde Harrison, Paul W. Harrison and James E. O'Connor, New Haven, Conn.

GENERAL OFFICE, Duluth, Minn.

Date of information, Apr., 1907.

DULUTH STREET RAILWAY CO.—Chartered in 1881 for 50 years. Annual meeting first Wednesday in July. This company is a consolidation of Duluth Street Ry. Co., Woodland Ry. Co., Lakeside Ry. Co. and Superior Rapid Transit Ry. Co. It has a traffic agreement with the Duluth-Superior Bridge Co., over which its cars are operated. The capital stock of this company is owned by the Duluth-Superior Traction Co.

CAPITAL STOCK, authorized, $1,500,000, issued, $300,000.

FUNDED DEBT.—First mortgage 5 p. c. gold bonds, authorized and issued, $2,500,000, coupon, but may be registered; dated May 1, 1900, due 1930; denom $1,000; int. payable May and Nov., at office of Central Trust Co. of New York, trustee of mortgage.

OPERATION.—Year ending Dec. 31,	1902.	1903.	1904.	1906.
Earnings from passengers		$617,185	$614,337	
" " other sources		4,860	4,835	
Gross earnings	$538,030	622,045	619,172	$768,875
Oper. exps. including all fixed charges, except taxes and int.	288,373	345,327	326,049	418,821
Gross income less oper. exps.	249,657	276,718	293,123	350,054
Deduct. from earn. (inc. taxes).	176,275	186,590	202,602	211,072
Net income	73,382	90,128	90,521	138,982
Depreciation				50,820
Surplus				88,162

STATISTICS OF TRAFFIC.

Year ending Dec. 31, 1904.	
Revenue passengers carried	12,286,731
Transfers	1,748,097
Passenger car miles run	2,886,297

BALANCE SHEET.—Dated Dec. 31, ASSETS.	1903.	1904.
Cost of road, equip. and other perm. invests	$4,406,775	$4,590,655
Cash	2,781	52,423
Current assets	25,654	19,921
Total	$4,435,210	$4,662,999
LIABILITIES.		
Capital stock	$ 300,000	300,000
Funded debt	2,350,000	2,500,000
Unfunded debt	1,500,000	1,500,000
Current liabilities	71,439	63,203
Profit and loss (surplus)	213,771	299,796
Total	$4,435,210	$4,662,999

PLANT AND EQUIPMENT.—Miles of track (electric), 73.21; gauge, 4 ft. 8½ in.; 35 lb. to 80 lb. T rail; 115 cars; Allis & Cooper engines; Gen. Elec. and West. dynamos and motors; Laclede, Northern and Twin City cars; Brill and McGuire trucks.

OFFICERS.—Pres. C. G. Goodrich; Sec. & Audr. S. L. Reichert; Treas. L. Mendenhall; Gen. Man. Herbert Warren; Pur. Agt. A. A. Mendenhall; Mast. Mech. R. J. Crawford; Ch. Engr. John Carson; Supt. Duluth Div. D. C. Moore; Supt. Superior Div. Alfred Williams; Mast. Mech. R. J. Crawford, Duluth; Roadmaster Thos. A. Armstrong, Duluth.

DIRECTORS.—Thomas Lowry and C. G. Goodrich, Minneapolis, Minn.; M. D. Munn, St. Paul, Minn.; G. G. Hartley, Joseph Sellwood, Herbert Warren, S. L. Reichert, T. W. Hoopes and L. Mendenhall, Duluth, Minn.

GENERAL OFFICE, 1108 W. Michigan St., Duluth, Minn.

POWER STATIONS AND REPAIR SHOPS, Duluth, Minn., and Superior, Wis.

REFERENCE.—Systems consolidated, Vol. XVI, Aug. 25, '00, p. 781.

Date of information, Apr., 1907.

WOODLAND RAILWAY CO.—This road was built by the Motor Line Improvement Co., which was essentially a land company. The road and equipment were acquired by the Duluth Street Ry. Co. on Oct. 1, 1901.

Interstate Traction Co.—This company is a reorganization of the Minnesota Point Street Railway, chartered June, 1888, for 50 years. Annual meeting Apr. 15.

CAPITAL STOCK, authorized, $50,000, issued, $40,000.

FUNDED DEBT.—First mortgage 5 p. c. gold coupon bonds, authorized and issued, $110,000; dated May, 1905, due 1925; denom. $500; int. payable May and Nov. at office of N. W. Trust Co., of St. Paul, Minn., trustee of mortgage.

First mortgage bonds may be called for payment at 6 months' notice at 104 and accrued interest.

PLANT AND EQUIPMENT—Miles of track (electric), 7; gauge, 4 ft. 8½ in.; 35 lb. T rail; 10 motor cars and 9 trail cars; power purchased.

PARKS AND AMUSEMENT RESORTS.—Oatka Beach.

OFFICERS.—Pres. Robert R. Dunn; Sec., Gen. Man. & Pur. Agt. O. C. Hartman, Duluth; Supt. S. M. Johnson, Duluth.

DIRECTORS.—Robert R. Dunn, O. C. Hartman, A. W. Hartman, C. F. Hartman.

GENERAL OFFICE, 216 West Superior St., Duluth, Minn.

Date of information, Apr., 1907.

MINNESOTA.

DULUTH.

Population in 1900, 52,969, in 1903, 57,397; Superior, 31,091.

Duluth-Superior Traction Co.—Incorporated in Connecticut in June, 1900, as a consolidation of the Duluth Street Ry., the Lakeside Street Ry. and the Superior Rapid Transit Ry. Co., of Super-[illegible] Wis. The securities of the constituent companies were retired, [illegible] the corporate existence of the Duluth Street Ry. Co. is to be [illegible]ntained, all of its capital stock being owned by the new company. The new company has a traffic agreement with the Duluth-Superior Bridge Co., at Superior, and operates all the electric railways in both cities, including Woodland Ry. Co.

Capital Stock.—Common, authorized and issued, $3,500,000; preferred 4 p. c. cumulative, authorized and issued, $1,500,000; par value, $100 per share.

Officers.—Pres. C. G. Goodrich, Sec. & Treas. L. Mendenhall.

Directors.—Thomas Lowry, C. G. Goodrich, Horace Lowry, Minneapolis, Minn.; M. D. Munn, St. Paul, Minn.; L. Mendenhall, Duluth, Minn.; Walter Hinchman, New York; Lynde Harrison, Paul W. Harrison, James E. O'Connor, New Haven, Conn.

General Office, Duluth, Minn.

Date of information, Apr., 1904. z

Duluth Street Railway Co.—The capital stock of this company is owned by the Duluth-Superior Traction Co.

Capital Stock, $300,000.

Funded Debt.—First mortgage 5 p. c. gold bonds, authorized, $2,500,000, issued, $2,350,000; coupon, but may be registered; dated May 1, 1900, due 1930; denom. $1,000; int. payable May and Nov., at office of Central Trust Co. of New York, trustee of mortgage.

Note.—$150,000 of these bonds are held in treasury for future improvements. The mortgage covers all the properties of the Duluth-Superior Traction Co., they having first been conveyed to the Duluth Street Ry. Co.

Operation.—Year ending Dec. 31,	1901.	1902.	1903.
Gross earnings	$453,704	$538,030	$622,045
Op. expenses incl'dg all fixed charges, except taxes and interest	251,315	288,373	345,327
Earnings from operation	202,389	249,657	276,718
Deductions from earnings, (inc. taxes)	169,967	176,275	186,590
Net income	32,422	73,382	90,128

Plant and Equipment.—Miles of track (electric), 74.45; gauge, 4 ft. 8½ in.; 45 lb. and 60 lb. girder and T rail; 107 motor cars; Allis [illegible]ines, Gen. Elec. and West. dynamos and motors, Laclede, North-[illegible]and Twin City cars.

Officers.—Pres. C. G. Goodrich, Sec. & Audr. S. L. Reichert. Treas. L. Mendenhall, Gen. Man. H. Warren, Pur. Agt. A. A. Mendenhall, Mast. Mech. W. J. Smith, Ch. Engr. J. Carson, Supt. Duluth Div. D. C. Moore, Supt. Superior Div. Alfred Williams.

Directors.—Thomas Lowry, C. G. Goodrich, Minneapolis, Minn.; M. D. Munn, St. Paul, Minn.; G. G. Hartley, Joseph Sellwood, Herbert Warren, S. L. Reichert, T. W. Hoopes, L. Mendenhall, Duluth, Minn.

General Office, 1108 W. Michigan St., Duluth, Minn.

Power Stations, Duluth, Minn., and Superior, Wis.

Reference.—Systems consolidated, Vol. XVI, Aug. 25, '00, p. 781.

Date of information, Apr., 1904. z

Interstate Traction Co.—This company is a reorganization of the Minnesota Point Street Railway, chartered June, 1887, for 50 years. Annual meeting Apr. 15th.

Capital Stock, authorized, $50,000, issued, $25,000.

Funded Debt.—First mortgage 6 p. c. gold coupon bonds, authorized, $50,000, issued, $40,000; dated May, 1899, due 1919; denom. $500; int. payable May and Nov. at office of St. Paul Title & Trust Co., of St. Paul, Minn., trustee of mortgage.

First mortgage bonds may be called for payment at 6 months' notice at 104 and accrued interest.

Operation—Year ending Oct. 31,	1900.	1901.	1902.	Dec. 31, 1903.
Earnings from passengers				$15,839
" other sources				2,349
Gross income	$8,640	$9,644	$15,627	18,188
Operating expenses	6,445	6,208	9,853	15,298
Gross income less operating exps	2,195	3,436	5,774	2,890
Deductions from earnings.				
Interest	1,242	1,190	1,200	2,400
Net income	953	2,246	4,574	490

Balance Sheet.—Dated Oct. 31,

ASSETS.	1900.	1901.	1902.	1903.
Cost of road and equipment	$36,692	$37,860	$38,677	$38,339
Other permanent investments				6,921
Real estate	4,353	4,501	*25,469	27,641
Cash	294	387	823	711
Bills and accounts receivable				2,886
Total	$41,339	$42,748	$64,969	$76,498
LIABILITIES.				
Capital stock	$20,000	$20,000	$20,000	$25,000
Funded debt	20,000	20,000	20,000	40,000
Bills payable			18,000	4,500
Profit and loss (surplus)	1,339	2,748	6,969	6,998
Total	$41,339	$42,748	$64,969	$76,498

*The company purchased 124 acres of land at end of line, for which it gave notes for $18,000. These notes have since been funded into first mortgage bonds.

Plant and Equipment—Miles of track (electric), 3.50; gauge, 4 ft. 8½ in.; 35 lb. T rail; 5 motor cars and 3 trail cars; power purchased.

Parks and Amusement Resorts.—Oatka Beach.

Officers.—Pres. Robert R. Dunn, V. Pres. H. O. Underwood, Sec. & Treas. A. W. Hartman.

Directors.—Robert R. Dunn, H. O. Underwood, O. C. Hartman, A. W. Hartman, C. F. Hartman.

General Office, 216 West Superior St., Duluth, Minn.

Date of information, Apr., 1904. z

Woodland Railway Co.—This company is the successor to the Motor Line Improvement Co., and is now a part of the Traction Co.

Capital Stock—Common, authorized, $10,000, issued, $5,500. Preferred 5 p. c. class "A" authorized, $5,000, issued, $1,795. Preferred 3 p. c. class "B" authorized, $25,000, issued, $23,200; par value, all shares, $10 per share.

Plant and Equipment.—Miles of track (electric), 6; gauge, 4 ft. 8½ in.; 45 lb. T rail; 4 motor cars; Gen. Elec. dynamos and motors; Laclede cars.

Officers.—Pres. T. W. Hoopes, Sec. James Bardon, Treas. R. M. Hunter.

General Office, 11th Ave. West & Michigan St., Duluth, Minn.

Date of information, Apr., 1904. z

DULUTH.

Population in 1900, 52,969, in 1903, 57,397, in 1905 (estimated), 65,000; Superior, Wis. (estimated), 35,000.

Duluth-Superior Traction Co.—Incorporated in Connecticut in June, 1900. Not an operating company. This company owns all the capital stock of the Duluth Street Ry. Co.

CAPITAL STOCK.—Common, authorized and issued, $3,500,000; preferred 4 p. c. cumulative, authorized and issued, $1,500,000; par value, $100 per share.

FUNDED DEBT.—None.

OFFICERS.—Pres. C. G. Goodrich; Sec. & Treas. L. Mendenhall.

DIRECTORS.—Thomas Lowry, C. G. Goodrich, and Horace Lowry, Minneapolis, Minn.; M. D. Munn, St. Paul, Minn.; L. Mendenhall, Duluth, Minn.; Walter Hinchman, New York, N. Y.; Lynde Harrison, Paul W. Harrison and James E. O'Connor, New Haven, Conn.

GENERAL OFFICE, Duluth, Minn.

Date of information, Jan., 1906. z

DULUTH STREET RAILWAY CO.—Chartered in 1881 for 50 years. Annual meeting first Wednesday in July. This company is a consolidation of Duluth Street Ry. Co., Woodland Ry. Co., Lakeside Ry. Co. and Superior Rapid Transit Ry. Co. It has a traffic agreement with the Duluth-Superior Bridge Co., over which its cars are operated. The capital stock of this company is owned by the Duluth-Superior Traction Co.

CAPITAL STOCK, authorized, $1,500,000, issued, $300,000.

FUNDED DEBT.—First mortgage 5 p. c. gold bonds, authorized and issued, $2,500,000, coupon, but may be registered; dated May 1, 1900, due 1930; denom. $1,000; int. payable May and Nov., at office of Central Trust Co. of New York, trustee of mortgage.

OPERATION.—Year ending Dec. 31,

	1901.	1902.	1903.	1904.
Earnings from passengers....			$617,185	$614,337
" " other sources..			4,860	4,835
Gross earnings	$453,704	$538,030	622,045	619,172
Oper. exps. including all fixed charges, except taxes and int.	251,315	288,373	345,327	326,049
Gross income less oper. exps..	202,389	249,657	276,718	293,123
Deduct. from earn. (inc. taxes).	169,967	176,275	186,590	202,602
Net income..................	32,422	73,382	90,128	90,521

STATISTICS OF TRAFFIC.

Year ending Dec. 31, 1904.

Revenue passengers carried................................	12,286,731
Transfers..	1,748,097
Passenger car miles run..................................	2,886,297

BALANCE SHEET.—Dated Dec. 31,

ASSETS.	1903.	1904.
Cost of road, equip. and other perm. invests...	$4,406,775	$4,590,655
Cash..	2,781	52,423
Current assets....................................	25,654	19,921
Total.	$4,435,210	$4,662,999
LIABILITIES.		
Capital stock..................................	$ 300,000	300,000
Funded debt....................................	2,350,000	2,500,000
Unfunded debt..................................	1,500,000	1,500,000
Current liabilities............................	71,439	63,203
Profit and loss (surplus)......................	213,771	299,796
Total..	$4,435,210	$4,662,999

PLANT AND EQUIPMENT.—Miles of track (electric), 72.49; gauge, 4 ft. 8½ in.; 35 lb. to 80 lb. T rail; 104 motor cars; Allis & Cooper engines; Gen. Elec. and West. dynamos and motors; Laclede, Northern and Twin City cars; Brill and McGuire trucks.

OFFICERS.—Pres. C. G. Goodrich; Sec. & Audr. S. L. Reichert; Treas. L. Mendenhall; Gen. Man. Herbert Warren; Pur. Agt. A. A. Mendenhall; Mast. Mech. R. J. Cranford; Ch. Engr. John Carson; Supt. Duluth Div. D. C. Moore; Supt. Superior Div. Alfred Williams.

DIRECTORS.—Thomas Lowry and C. G. Goodrich, Minneapolis, Minn.; M. D. Munn, St. Paul, Minn.; G. G. Hartley, Joseph Sellwood, Herbert Warren, S. L. Reichert, T. W. Hoopes and L. Mendenhall, Duluth, Minn.

GENERAL OFFICE, 1108 W. Michigan St., Duluth, Minn.

POWER STATIONS AND REPAIR SHOPS, Duluth, Minn., and Superior, Wis.

REFERENCE.—Systems consolidated, Vol. XVI, Aug. 25, '00, p. 781.

Date of information, Jan., 1906. z

WOODLAND RAILWAY CO.—This road was built by the Motor Line Improvement Co., which was essentially a land company. The road and equipment were acquired by the Duluth Street Ry. Co. on Oct. 1, 1901.

PLANT AND EQUIPMENT.—Miles of track (electric), 6; gauge, 4 ft. 8½ in.; 45 lb. T rail.

Date of information, Jan., 1906. z

Interstate Traction Co.—This company is a reorganization of the Minnesota Point Street Railway, chartered June, 1888, for 50 years. Annual meeting Apr. 15.

CAPITAL STOCK, authorized, $50,000, issued, $40,000.

FUNDED DEBT.—First mortgage 5 p. c. gold coupon bonds, authorized and issued, $70,000; dated May, 1905, due 1925; denom. $500; int. payable May and Nov. at office of N. W. Trust Co., of St. Paul, Minn., trustee of mortgage.

First mortgage bonds may be called for payment at 6 months' notice at 104 and accrued interest.

OPERATION—Year ending Oct. 31, Dec. 31,

	1901.	1902.	1903.	1905.
Earnings from passengers..........			$15,839	$19,928
" other sources.............			2,349	1,762
Gross income......................	$9,644	$15,627	18,188	21,690
Operating expenses................	6,208	9,853	15,298	11,095
Gross income less operating exps....	3,436	5,774	2,890	10,595
Deductions from earnings.				
Interest.........................	1,190	1,200	2,400	
Net income.......................	2,246	4,574	490	

BALANCE SHEET.—Dated Oct. 31,

ASSETS.	1900.	1901.	1902.	1903.
Cost of road and equipment......	$36,692	$37,860	$38,677	$38,339
Other permanent investments.....				6,921
Real estate......................	4,353	4,501	*25,469	27,641
Cash.............................	294	387	823	711
Bills and accounts receivable.....				2,886
Total.......................	$41,339	$42,748	$64,969	$76,498
LIABILITIES.				
Capital stock....................	$20,000	$20,000	$20,000	$25,000
Funded debt......................	20,000	20,000	20,000	40,000
Bills payable....................			18,000	4,500
Profit and loss (surplus)..........	1,339	2,748	6,969	6,998
Total.......................	$41,339	$42,748	$64,969	$76,498

*The company purchased 124 acres of land at end of line, for which it gave notes for $18,000. These notes have since been funded into first mortgage bonds.

PLANT AND EQUIPMENT—Miles of track (electric), 3.50; gauge, 4 ft. 8½ in.; 35 lb. T rail; 5 motor cars and 3 trail cars; power purchased.

PARKS AND AMUSEMENT RESORTS.—Oatka Beach.

OFFICERS.—Pres. Robert R. Dunn; Sec. & Treas. A. W. Hartman.

DIRECTORS.—Robert R. Dunn, O. C. Hartman, A. W. Hartman, C. F. Hartman.

GENERAL OFFICE, 216 West Superior St., Duluth, Minn.

Date of information, Jan., 1906. z

DULUTH.

Population in 1900, 52,969, in 1903, 57,397, in 1905 (estimated), 65,000; Superior, Wis. (estimated), 35,000.

Duluth-Superior Traction Co.—Incorporated in Connecticut in June, 1900. Not an operating company. This company owns all the capital stock of the Duluth Street Ry. Co.

CAPITAL STOCK.—Common, authorized and issued, $3,500,000; preferred 4 p. c. cumulative, authorized and issued, $1,500,000; par value, $100 per share.

FUNDED DEBT.—None.

OFFICERS.—Pres. C. G. Goodrich; Sec. & Treas. L. Mendenhall.

DIRECTORS.—Thomas Lowry, C. G. Goodrich, and Horace Lowry, Minneapolis, Minn.; M. D. Munn, St. Paul, Minn.; L. Mendenhall, Duluth, Minn.; Walter Hinchman, New York, N. Y.; Lynde Harrison, Paul W. Harrison and James E. O'Connor, New Haven, Conn.

GENERAL OFFICE, Duluth, Minn.

Date of information, Feb., 1908. d

DULUTH STREET RAILWAY CO.—Chartered in 1881 for 50 years. Annual meeting first Wednesday in July. This company is a consolidation of Duluth Street Ry. Co., Woodland Ry. Co., Lakeside Ry. Co. and Superior Rapid Transit Ry. Co. It has a traffic agreement with the Duluth-Superior Bridge Co., over which its cars are operated. The capital stock of this company is owned by the Duluth-Superior Traction Co.

CAPITAL STOCK, authorized, $1,500,000, issued, $300,000.

FUNDED DEBT.—First mortgage 5 p. c. gold bonds, authorized and issued, $2,500,000, coupon, but may be registered; dated May 1, 1900, due 1930; denom. $1,000; int. payable May and Nov., at office of Central Trust Co. of New York, trustee of mortgage.

OPERATION.—Year ending Dec. 31,

	1903.	1904.	1906.	1907.
Earnings from passengers....	$617,185	$614,337		
" " other sources..	4,860	4,835		
Gross earnings	622,045	619,172	$768,875	$846,084
Oper. exps. including all fixed charges, except taxes and int.	345,327	326,049	418,821	437,391
Gross income less oper. exps..	276,718	293,123	350,054	408,693
Deduct. from earn. (inc. taxes).	186,590	202,602	211,072	217,682
Net income.................	90,128	90,521	138,982	191,011
Depreciation................			50,820	84,053
Surplus			88,162	106,958

STATISTICS OF TRAFFIC.

Year ending Dec. 31, 1904.

Revenue passengers carried..................	12,286,731
Transfers..................	1,748,097
Passenger car miles run..................	2,886,297

BALANCE SHEET.—Dated Dec. 31,

ASSETS.	1903.	1904.
Cost of road, equip. and other perm. invests...	$4,406,775	$4,590,655
Cash..................	2,781	52,423
Current assets	25,654	19,921
Total..................	$4,435,210	$4,662,999
LIABILITIES.		
Capital stock	$ 300,000	$ 300,000
Funded debt..................	2,350,000	2,500,000
Unfunded debt	1,500,000	1,500,000
Current liabilities..................	71,439	63,203
Profit and loss (surplus)..................	213,771	299,796
Total..................	$4,435,210	$4,662,999

PLANT AND EQUIPMENT.—Miles of track (electric), 75.2; gauge, 4 ft. 8½ in.; 35 lb. to 80 lb. T rail; 109 cars; Allis & Cooper engines; Gen. Elec. and West. dynamos and motors; Laclede, Northern and Twin City cars; Brill and McGuire trucks.

OFFICERS.—Pres. C. G. Goodrich; Sec. & Audr. S. L. Reichert; Treas. L. Mendenhall; Gen. Man. Herbert Warren; Pur. Agt. A. A. Mendenhall; Supt. Duluth Div. D. C. Moore; Supt. Superior Div. Alfred Williams; Ch. Engr. John Carson; Mast. Mech. R. J. Crawford, Duluth; Roadmaster Thos. A. Armstrong, Duluth.

DIRECTORS.—Thomas Lowry and C. G. Goodrich, Minneapolis, Minn.; M. D. Munn, St. Paul, Minn.; G. G. Hartley, Joseph Sellwood, Herbert Warren, S. L. Reichert, T. W. Hoopes and L. Mendenhall, Duluth, Minn.

GENERAL OFFICE, 1108 W. Michigan St., Duluth, Minn.

POWER STATIONS AND REPAIR SHOPS, Duluth, Minn., and Superior, Wis.

REFERENCE.—Systems consolidated, Vol. XVI, Aug. 25, '00, p. 781.

Date of information, Feb., 1908. d x

WOODLAND RAILWAY CO.—This road was built by the Motor Line Improvement Co., which was essentially a land company. The road and equipment were acquired by the Duluth Street Ry. Co. on Oct. 1, 1901.

Interstate Traction Co.—This company is a reorganization of the Minnesota Point Street Railway, chartered June, 1888, for 50 years. Annual meeting Apr. 15.

CAPITAL STOCK, authorized, $50,000, issued, $40,000.

FUNDED DEBT.—First mortgage 5 p. c. gold coupon bonds, authorized and issued, $110,000; dated May, 1905, due 1925; denom. $500; int. payable May and Nov. at office of N. W. Trust Co., of St. Paul, Minn., trustee of mortgage.

First mortgage bonds may be called for payment at 6 months' notice at 104 and accrued interest.

PLANT AND EQUIPMENT.—Miles of track (electric), 7; gauge, 4 ft. 8½ in.; 35 lb. T rail; 10 motor cars and 9 trail cars; power purchased.

PARKS AND AMUSEMENT RESORTS.—Oatka Beach and White City.

OFFICERS.—Pres. Robert R. Dunn; Sec., Gen. Man. & Pur. Agt. O. C. Hartman, Duluth; Supt. S. M. Johnson, Duluth.

DIRECTORS.—Robert R. Dunn, O. C. Hartman, A. W. Hartman, C. F. Hartman.

GENERAL OFFICE, 205 Lonsdale Bldg., Duluth, Minn.

Date of information, Apr., 1908. z

DULUTH.

McGraw
1914

Population, Duluth, in 1900, 52,969; in 1910, 78,466. Superior, Wis., in 1900, 31,091; in 1910, 40,384.

Duluth-Superior Traction Co.—Incorporated in Connecticut in June, 1897, and owns all the capital stock of the Duluth Street Ry. Co., which operates in Duluth, Minn., and Superior, Wis. The Wisconsin R. R. Commission issued an order, in 1912, directing the Duluth Street Railway Co. to establish a rate of 6 tickets for 25 cents on the lines in Superior. The company has secured an injunction restraining the enforcement of the order until the question of its right to charge a flat 5-cent fare under an existing city franchise is determined by the courts. Annual meeting first Wednesday after the fourth Tuesday in Jan.

Capital Stock.—Common, authorized and issued, $3,500,000; preferred 4 p. c. cumulative, authorized and issued, $1,500,000; par value, $100 per share.

Dividends.—On preferred stock 4 p. c. per annum is being paid. On common stock first dividend paid Oct., 1909, 1 p. c.; same amount quarterly to and including July, 1910; in Oct., 1910, 1¼ p. c.; in 1911, 5 p. c.; in 1912, 5 p. c.; in 1913, 4½ p. c.; in 1914, Jan., 1 p. c.

Operation.—Year ending Dec. 31,	1911.	1912.	1913.
Revenue from transportation	$1,110,245	$1,060,937	$1,260,061
Other revenue	25,054	22,322	23,853
Total revenue	1,135,299	1,083,259	1,283,914
General and miscell. expenses	119,727	126,610	166,038
Conducting transportation	389,907	414,886	463,266
Traffic expenses	799	618	655
Way and structure expenses	46,635	38,205	52,628
Equipment expenses	51,067	49,868	65,577
Total operating "	608,135	630,187	748,164
Net revenue from operation	527,164	453,072	535,750
Interest on debt and taxes	208,161	219,296	246,063
Surplus	319,003	233,776	289,687
Dividends, preferred	60,000	60,000	60,000
" common	175,000	175,000	148,750
Surplus	84,003	*1,224	80,937
Depreciation appropriation	58,288	70,114	74,101
Net surplus for year	25,715	*71,338	6,836
Oper. expenses, including taxes & depreciation, p.c. of total earns.	64.08	70.28	69.23

*The deficit for 1912 was the result of trainmen's strike, which lasted from Sept. 9 to Nov. 6, 1912.

STATISTICS OF TRAFFIC.

Year ending Dec. 31,	1911.	1912.	1913.
Revenue passengers carried	22,186,930	21,132,003	25,335,604
Transfers redeemed	3,787,791	3,716,619	4,294,066

Balance Sheet.—Dated Dec. 31, 1913.

ASSETS.		LIABILITIES.	
Roadw'y, equip., and securities in treas.	$9,062,222	Capital stock	$5,000,000
Reserve fund	273,493	Funded debt	3,312,000
Cash on hand	105,885	Approved vouchers	68,823
Storehouse mat. for oper.	40,000	Accrued interest	27,676
Storehouse mat. for con.	53,778	" taxes	54,624
Accounts receivable	8,921	Bills payable	261,500
Prepaid insurance	1,943	Other current liabilities	12,564
Interest on floating debt, paid in advance	1,553	Res. for damages, etc.	29,832
Accr'd interest (reserve fund investments)	2,413	Depreciation reserve	350,494
Accounts to be adjusted	783	Surplus	433,478
Total	$9,550,991	Total	$9,550,991

Track.—Miles of track, 82.7.

Officers.—Pres. C. G. Goodrich, Minneapolis; V. Pres. A. E. Ames, Toronto, Ont.; V. Pres. & Gen. Mgr. Herbert Warren, Duluth; Sec., Treas. & Audr. S. L. Reichert, Duluth; Asst. Sec. Edmund Zacher, New Haven, Conn.

Directors.—C. G. Goodrich, Horace Lowry, Minneapolis, Minn.; L. Mendenhall, Duluth, Minn.; Edmund Zacher, New Haven, Conn.; W. H. Goadby, New York City; A. E. Ames and F. H. Deacon, of Toronto, Ont.

General Office, Duluth, Minn.

DULUTH STREET RAILWAY CO.—Chartered in 1881 for 50 years. Annual meeting second Wednesday in Jan. Consolidation of Duluth Street Ry. Co., Woodland Ry. Co., Lakeside Ry. Co. and Superior Rapid Transit Ry. Co. Has traffic agreement by which it operates over bridge of the Duluth-Superior Bridge Co., paying toll of 2½ cents per passenger, but not more than $32,500 in any calendar year. The capital stock of this company is owned by The Duluth-Superior Traction Co.

Capital Stock, authorized, $2,000,000; issued, $1,800,000.

Funded Debt.—First mortgage 5 p. c. gold bonds, authorized and issued, $2,500,000; coupon, but may be registered; dated May 1, 1900, due May 1, 1930; denom. $1,000; int. payable May and Nov. at Central Trust Co. of New York, trustee of mortgage.

General mortgage 5 p. c. gold sinking fund bonds, authorized $2,500,000, outstanding $812,000; dated May 1, 1910, due May 1, 1930; denom. $1,000; int. May and Nov. at Central Trust Co., New York, trustee. Subject to call on any interest day at 105 and interest. Guaranteed by Duluth-Superior Traction Co. Remaining bonds may be issued for additions, extensions, etc. Sinking fund of 2½ p. c. of outstanding bonds began May 1, 1913, and annually thereafter.

Track and Equipment.—Length of lines, 43.21 miles; miles of track (electric), 82.43; 130 cars.

Officers.—Pres. C. G. Goodrich; V. Pres. & Gen. Mgr. Herbert Warren; Sec. & Treas. S. L. Reichert; Audr. S. Macdonald; Pur. Agt. Otis Birdsall; Supt. Duluth Div. D. C. Moore, Supt. Superior Div. Alfred Williams; Claim Agt. R. H. Wellington; Ch. Engr. John Carson; Mast. Mech. R. J. Crawford, Duluth; Roadmaster, Thos. A. Armstrong, Duluth.

General Office, 2631 W. Superior St., Duluth, Minn.; power stations and repair shops, Duluth, Minn., and Superior, Wis.

Park Point Traction Co.—Runs from Aerial Bridge to Duluth Boat Club. Population served, 1,500.

Track and Equipment.—Miles of track, 7; 7 motor cars, 7 other cars, 1 snow plow.

Officers.—Pres. Robt. R. Dunn, New York City; V. Pres., Gen. Mgr. & Sec. J. B. Crane; Treas. Oscar Mitchell; Mast. Mech. John Nybergh; Roadmaster, John Cassidy.

General Office, Box 779, Duluth, Minn.; repair shops, Park Point.

DULUTH-SUPERIOR TRACTION CO. (THE).—Organized, 1897 in Connecticut. Through the ownership of 17,993 shares of a total of 18,000 shares of the capital stock of The Duluth Street Ry. Co., it owns and controls the electric street railway systems in the cities of Duluth, Minn. and Superior, Wis., including the interstate line connecting the two cities. This is a stock owning corporation purely. It advanced to The Duluth Street

Ry. Co. $1,500,000, upon which that company paid 1 p. c. interest quarterly until the obligation was converted at the end of 1909, an equal amount of the capital stock of the Duluth Street Ry. Co. being issued to The Duluth-Superior Traction Co.

Operations, year ended Dec. 31, 1913.—Car mileage (passenger), 4,518,456. No. passengers carried—revenue, 25,335,604; transfers, 4,294,066. Earnings—passenger, $1,258,638; other, $25,276—total, $1,283,914. Operating expenses—maintainence of way and structures, $52,627; maintenance of equipment, $65,577; traffic expenses, $655; transportation expenses, $463,266; general expenses, $166,039—total, $748,164. Net earnings, $535,750. Deductions: Taxes, $66,537; interest on bonds, $166,014; other interest, $13,512; depreciation, $74,100; dividends on preferred stock (4 p. c.), $60,000; dividends on common stock (4.25 p. c.) $148,750—total deductions, $528,913. Surplus for year, $6,837; surplus forward ($427,075; strike expense, $2,534—balance, $424,541; add bond discount, $2,100), $426,641—total surplus, Dec. 31,1913, $433,478.

Statement of Operations, Years Ended Dec. 31.

	Revenue Passengers. No.	Transfers Redeemed. No.	Passenger Earnings.	Total Earnings.	Net Earnings.	Fixed Charges, Etc.	Dividends— Preferred.	Dividends— Common.	Surplus After Dividends.
1908	17,661,550	4,275,087	$883,078	$890,296	$340,858	$159,201	$60,000	....	$121,657
1909	19,431,381	3,778,780	971,569	997,606	437,795	172,366	60,000	$70,000	135,429
1910	21,624,039	4,036,815	1,081,202	1,091,582	487,507	190,779	60,000	157,500	79,228
1911	22,186,930	3,787,791	1,109,347	1,135,300	527,165	208,161	60,000	175,000	84,003
1912	21,211,373	3,716,619	1,059,907	1,083,259	453,072	219,296	60,000	175,000	*1,224
1913	25,335,604	4,294,066	1,258,638	1,283,914	535,750	246,063	60,000	148,750	80,937

* Deficit is the result of strike during September and October.

General Balance Sheet, Dec. 31.

Assets:	1911	1912	1913	*Liabilities:*	1911	1912	1913
Cost of road and equipment	$8,809,134	$8,989,156	$9,062,223	Capital stock	$5,000,000	$5,000,000	$5,000,000
Reserve fund (invested)	273,493	273,493	273,493	Funded debt	3,057,000	3,333,000	3,312,000
Cash on hand	20,328	33,373	105,884	Accrued taxes, not due	94,040	49,355	54,624
Materials, etc	82,466	110,097	93,778	Accrued interest, not due	25,475	27,775	27,676
Accounts receivable	8,070	13,572	8,921	Current liabilities	111,328	247,375	342,887
Insurance paid in advance	1,580	1,585	1,943	Dmagaes and injuries	18,890	29,710	29,832
Accrued interest	2,412	2,412	2,412	Depreciation reserve	285,222	310,269	350,494
Interest paid in advance	....	871	1,553	Profit and loss	605,529	427,075	433,478
Accounts to be adjusted	....	....	784				
Totals	$9,197,484	$9,424,559	$9,550,991	Totals	$9,197,484	$9,424,559	$9,550,991

Capital Stock.—Authorized and outstanding—common, $3,500,000; 4 p. c. cumulative preferred, $1,500,000—total, $5,000,000. Shares, $100. The dividend rate of the preferred stock is fixed at 4 p. c. and cannot be increased except by vote of all the common stock. Preferred has preference over common as to both assets and dividends. Dividends, January, 1, etc., quarterly, at New York and Montreal. Regular quarterly dividends of 1 p. c. on the preferred stock are being paid. Regular quarterly dividends at the rate of 4 p. c. per annum were paid on the common stock from Oct. 1, 1909, to Oct. 1, 1910, when the rate was increased to a 5 p. c. basis; rate reduced after 1st quarter of 1913 to 4 p. c. so that 4¼ p. c. was paid in 1913; Jan., 1914, 1 p. c. Books do not close. Common stock only is listed on Toronto and Montreal Exchanges. Both common and preferred are listed on New York Stock Exchange.

Tranfer Agent, etc.—Registrars of stock, Central Trust Co., of New York and (common only) National Trust Co., Ltd., Montreal, Can. Transfer Agents: Farmers' Loan & Trust Co., New York, N. Y., and (common only), Montreal Trust Co., Montreal, Can. Annual meeting, first Wednesday after fourth Tuesday in Jan., at New Haven, Conn. Books do not close.

Funded Debt outstanding, Dec. 31, 1913 (total, $3,312,000).

$2,500,000 Duluth St. Ry. 1st mtge. gold 5s. (For description, see statement of Duluth St. Ry.)

It is the present intention of the company to pay all bond interest without deduction for Income Tax, except in cases where owners are exempt.

$812,000 Duluth St. Ry. gen. mtge. 20-yr. gold 5s. (For description, see statement of Duluth St. Ry.)

It is the present intention of the company to pay all bond interest without deduction for Income Tax, except in cases where owners are exempt.

Directors.—C. G. Goodrich, Horace Lowry, Minneapolis, Minn.; L. Mendenhall, Duluth, Minn.; W. H. Goadby, New York, N. Y.; A. E. Ames, F. H. Deacon, Toronto, Ont.; E. Zacher, New Haven, Conn. **Officers:** C. G. Goodrich, Pres., Minneapolis, Minn.; A. E. Ames, Vice-Pres., Toronto, Ont.; Herbert Warren, Vice-Pres. and Gen. Mgr., Duluth, Minn.; S. L. Reichert, Sec. and Treas., Duluth, Minn.; Edmund Zacher, Asst. Sec., New Haven, Conn. Offices, Duluth, Minn., and New Haven, Conn.

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Railroad Owned by The Duluth-Superior Traction Company.

DULUTH STREET RY (THE).—Length of track, 82.47 miles. Sidings, etc., 4.97 miles. Gauge, 4 ft. 8½ in. Rail (T), 60 to 91 lbs. Cars—passenger, 122; work, 4; snowplows, 3; other, 6—total, 135, all electrically equipped. Power stations, 2; engines to generate power (Duluth, 3; Superior, 2), 5. Power supplied by Great Northern Power Co.

History.—Chartered, Oct. 25, 1881, for fifty years, under the laws of Minnesota. Franchise granted for fifty years, Nov. 17, 1881, gives exclusive rights on all streets. Road opened in Nov., 1882. Company reorganized in Aug., 1900, under the terms of a plan of adjustment given in the Manual for 1901, page 946. The Lakeside Street Ry. Co. and the Superior Rapid Transit Co. were included in the reorganization. On Oct. 1, 1901, the company purchased the property and franchises of the Woodland Co. (see Manual for 1901, page 946). This system includes all the street railway lines in the cities of Duluth, Minn., and Superior, Wis. The company has a traffic agreement with the Duluth-Superior Bridge Co., over which its cars are operated.

Control.—On August 12, 1900, the company passed under the control of The Duluth-Superior Traction Co., through purchase of the entire capital stock.

Income Account, year ended June 30, 1913.—Earnings—passenger, $1,073,591; other, $7,684—total, $1,081,275. Operating expenses—maintenance of way and structures, $41,300; maintenance of equipment, $55,325; traffic expenses, $613; transportation expenses, $435,217; general expenses, $103,290—total, $635,746. Net earnings, $445,529; other income, $15,835—total net income, $461,364. Deductions: Taxes, $61,001; interest on bonds, $162,679; other interest, $8,398; depreciation, $70,114; dividends (13 p. c.), $234,000—total, $536,192. Deficit for year, $74,828; surplus forward ($603,214; debits during year, $107,116), $496,098; net surplus, June 30, 1913, $421,270.

General Balance Sheet, June 30, 1913.—Capital stock, $1,800,000; funded debt, $3,312,000; working liabilities, $347,710; accrued liabilities, $62,982; reserves, $324,272; bond discount, $2,100; profit and loss, $421,269—total, $6,270,333. **Contra:** Cost of road and equipment, $5,846,195; other investments, $6,000; cash and current assets, $137,676; construction reserve, $273,493; suspense accounts, $6,968—total, $6,270,333.

Capital Stock.—Authorized, $2,000,000; outstanding, $1,800,000, all owned by the Duluth-Superior Traction Co. Shares, $100. Transfer agent and registrar of bonds, Central Trust Co. of New York, New York, N. Y. Annual meeting, second Wednesday in Jan., at Duluth, Minn.

Funded Debt Outstanding, December 31, 1913 (Total, $3,312,000):

$2,500,000 first mortgage 30-year gold 5s, due May 1, 1930, interest May and November 1, at office of the trustee, Central Trust Co., New York, N. Y. Coupon bonds, $1,000, registerable as to principal. Authorized, $2,500,000. These bonds are a first mortgage on the entire property of the Duluth Street Railway now owned or hereafter acquired, which includes the property of the Lakeside Street Railway and the Superior Rapid Transit.

Interest on above bonds payable in full without deduction of normal United States Income Tax.

$812,000 general mortgage 20-year gold 5s, due May 1, 1930; interest, May 1 and November 1, at office of the trustee, Central Trust Co., New York, N. Y. Coupon bonds, $1,000, registerable as to principal. Authorized, $2,500,000. The unissued bonds are issuable only for further extensions, improvements, additions, etc., at the rate of $1,000 bonds for each $1,200 of actual cost, and earnings must, for twelve of the thirteen months next preceding, have been at least twice the interest on all sustaining bonds, and likewise one year's interest upon the additional amount to be issued. Subject to call as a whole, at 105 and interest on any interest date, upon thirty days' notice, or in part through drawings by lot or by purchase, at the same price, upon sixty days' notice. On May 1, 1913, and annually thereafter, an amount of not less than 2½ p. c. of the par value of all bonds issued, and then outstanding, shall be put aside for a sinking fund and applied to the purchase of these bonds, at not exceeding 105 and interest. Secured by a general mortgage on all the property, franchises, contracts, revenues, etc., present and future, subject to 1st mtge. bonds. Unconditionally guaranteed by The Duluth-Superior Traction Co., both as to principal and interest; such guarantee being endorsed on each bond. On May 1, 1913, $21,000 of the above bonds were in sinking fund.

Interest on above bonds payable in full without deduction of normal United States Income Tax.

Directors.—C. G. Goodrich, Horace Lowry, Minneapolis, Minn.; L. Mendenhall, Herbert Warren, S. L. Reichert, Duluth, Minn.; A. E. Ames, F. H. Deacon, Toronto, Ont. **Officers:** C. G. Goodrich, Pres.; Herbert Warren, Vice-Pres. and Gen. Mgr., Duluth, Minn.; S. L. Reichert, Sec. and Treas.; Sibbald Macdonald, Aud. Office, Duluth, Minn.

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THE DULUTH-SUPERIOR TRACTION COMPANY

History: Incorporated under laws of Connecticut under special charter in January, 1897. In August, 1900, company acquired control through purchase of stock of the Duluth Street Ry., Lakeside Street Ry. Co. and the Superior Rapid Transit Co. These companies control the street railway lines of Duluth, Minn., and Superior, Mich., and operate under an exclusive franchise expiring in 1931. The company procures its power from the Great Northern Power Co. under a special contract. In 1917, acquired the property of the Park Point Traction Co.

Management: OFFICERS: A. E. Ames, Chairman of Board; A. M. Robertson, Pres.; Edmund Zacher, Vice-Pres. and Asst. Sec.; Herbert Warren, Vice-Pres. and Gen. Mgr.; S. L. Reichert, Sec. and Treas., Duluth. DIRECTORS: A. M. Robertson, Horace Lowry, Minneapolis; Edmund Zacher, New Haven, Conn.; L. Mendenhall, Duluth, Minn.; W. H. Goadby, New York; A. E. Ames, F. H. Deacon, Toronto, Ont. ANNUAL MEETING: First Wednesday after fourth Tuesday in January at New Haven, Conn. OFFICES: Duluth, Minn., and New Haven, Conn.

Operating Statistics, Years Ended Dec. 31

	1917	1916	1915	1914	1913	1912	1911
Revenue passengers carried........	$32,196,521	28,081,851	23,185,970	25,912,155	25,335,604	21,132,003	22,186,930
Transfers redeemed	5,239,439	4,597,429	4,035,752	4,375,217	4,294,066	3,716,619	3,787,791
Operating expenses, including taxes	71.88%	69.09%	77.19%	70.53%	69.23%	70.28%	64.08%
Gross earnings per mile of road....	$28,279	$29,684	$25,710	$28,671	$27,995	$23,574	$25,293

Comparative Income Account, Years Ended Dec. 31

	1917	1916	1915	1914	1913	1912	1911
Gross revenues	$1,621,952	$1,407,511	$1,164,446	$1,289,917	$1,260,061	$1,060,937	$1,110,245
Operating expenses, taxes, etc....	1,181,979	984,086	910,839	926,512	888,801	761,303	*666,423
Net operating revenues......	$439,973	$423,425	$253,607	$363,405	$371,260	$299,634	$443,822
Other income	22,435	16,918	15,514	23,647	23,853	22,322	25,054
Total net income...........	$462,408	$440,343	$269,121	$387,052	$395,113	$321,956	$468,876
Fixed charges	176,611	172,342	172,699	177,372	179,526	158,294	208,161
Surplus above charges.......	$285,797	$268.001	$96,422	$209,680	$215,587	$163.662	$260.715
Margin of safety...........	**62**%	**61**%	**36**%	**54**%	**54**%	**51**%	**56**%
Dividends paid:							
Preferred	60,000	60,000	60.000	60,000	60,000	60,000	60,000
Common	70,000	....	35,000	140,000	148,750	175,000	175,000
Final surplus..............	$155,797	$208,001	$1,000	$9,680	$6,837	def. $71,338	$25,715
Earned on preferred...........	19%	17.9%	6.4%	14%	14.4%	10.9%	17.4%
Earned on common............	6.4%	5.9%	1%	4.3%	4.7%	2.9%	5.7%

*Taxes included with fixed charges in 1911.

Note: Margin of safety is the proportion of total net income left over after deduction of all charges, including interest on permanent and floating debts, sinking funds, etc. Wherever possible, taxes and depreciation items are deducted before showing net income available for charges. Earned on stock is based on the amounts outstanding at the close of the fiscal year.

Comment: This company reported a moderate decline in its profits during 1917 and as fixed charges did not materially change, the balance carried forward was fully sufficient to cover dividend requirements. During the year the company resumed dividends on its common stock, making a payment at the rate of 2%.

Comparative Condensed Balance Sheet, as of Dec. 31

ASSETS:	1917	1916	1915	1914	1913
Roadway, equipment, etc..................	$9,506,489	$9,153,053	$9,000,780	$9,104,136	$9,062,223
Cash on hand..........................	58,256	35,388	57,808	58,451	105,884
Bills and accts. receivable..............	76,890	75,029	5,819	6,960	8,921
Liberty bonds	13,854	....	....	....	....
Material and supplies	136,426	100,660	93,334	95,845	93,778
Prepaid accounts	8,215	....	1,597	2,626	3,496
Accrued interest	3,881	4,083	2,412	2,413	2,413
Accounts to be adjusted	465	3,388	2,077	....	783
Reserve fund invested	273,493	273,493	273,493	273,493	273,494
Total	$10,077,969	$9,645,094	$9,437,320	$9,543,924	$9,550,992
LIABILITIES:					
Common stock	$3,500,000	$3,500,000	$3,500,000	$3,500,000	$3,500,000
Preferred stock	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000
Bonded debt	3,500,000	3,410,000	3,272,000	3,292,000	3,312,000
Current accounts	73,963	56,471	189,905	241,345	273,063
Approved vouchers			46,543	61,518	68,823
Accrued taxes, not due	106,084	58,287	54,118	51,936	54,623
Interest on bonds, not due...............	29,487	28,731	27,417	27,740	27,680
Reserves, depreciation, etc..............	737,508	621,017	508,181	424,230	380,325
nadjusted credits.........................	8,306	....	....	....	....
urplus	622,621	470,588	339,156	445,155	433,478
Total	$10,077,969	$9,645,094	$9,437,320	$9,543,924	$9,550,992

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Table A.—Bond Records and Ratings (Based on Five Year Income Results, Etc.)

Name of Issue	Interest Payable	Maturity	Authorized	Outstanding	Average Income Available	Interest Required Per Annum	Factor of Safety	Basis for Rating		Net Rating
								Security	Salability	
1. Duluth St. Ry. 1st 5s...........	M&N	My 1930	$2,500,000	$2,500,000	$390,807	$125,000	68%	High	Good	Aa.
2. Duluth St. Ry. gen. 20-yr. 5s....	M&N	My 1930	2,500,000	1,000,000	265,807	50,000	81%	"	"	A.

Note: Average income available is the annual average for last five years shown in income account.

1. Dated May 1, 1900; due May 1, 1930; int. paid at Central Trust Co., New York. Coupon, $1,000. First lien on entire property of Duluth Street Railway Co. Underlies No. 2. Company pays normal income tax.

2. Dated May 1, 1910; due May 1, 1930; int. paid at Central Trust Co., New York. Coupon, $1,000. Callable on 30 days' notice at 105 and int. Sinking fund, 2½% per annum of outstanding bonds, beginning May 1, 1913. Unissued bonds are reserved for improvements at five-sixths of cost, but only when net earnings equal twice interest charges. Guaranteed principal and interest by endorsement by The Duluth-Superior Traction Co., which owns all stock of The Duluth Street Railway. Follow No. 1 on entire property, consisting of 103,75 miles of street railway in Duluth, Minn., and Superior, Wis. Company pays normal income tax.

Table B.—Stock Records and Ratings (Based on Five Year Income Results, Etc.)

Name of Issue	Rate of Dividend	Amount Outstanding	Average Income Available	Dividend Requirement	Factor of Safety	Basis for Rating		Net Rating
						Equity	Salability	
1. Duluth-Superior Tr. 4% cum. pfd.............	4% Qu. Ja.	$1,500,000	$215,097	$60,000	72%	Good	Fair	Baa.
2. Duluth-Superior Tr. common.................	See note	3,500,000	155,097	70,000*	55%	Fair	"	B.

* For 2%.

Note: Average income available is the annual average surplus for dividends for last five years shown in income account. Dividend requirement is the present requirement. For key to ratings, see pages 11 to 18.

1. Authorized and issued, $1,500,000; par $100. Has preference as to assets and 4% cumulative dividends. Dividends can be increased to 8% with consent of all common stockholders. Regular 4% rate has been paid since 1901.

2. Authorized and issued, $3,500,000; par $100. Dividends: In 1909 and 1910, 4%; 1911 and 1912, 5%; 1913, 4¼%; 1914, 4%; 1915, 1%; 1916, none; 1917, 2%. Both issues listed on New York Stock Exchange.

THE EDISON ELECTRIC ILLUMINATING COMPANY OF BOSTON

History: Incorporated under Massachusetts laws 1886 to supply electric light and power to the city of Boston. In June, 1901, the company purchased the property of the Boston Electric Light Co. and the Suburban Light & Power Company. In 1903 it purchased the Milton Light & Power Co., the Dedham Electric Co., Blue Hill Electric Company, Framingham Electric Co., Natick Gas & Elec. Co., Greendale Chemical & Electric Light Co. In 1904 it acquired the Somerville Electric Light Co., and in 1905 the Woburn Light, Heat & Power Co., the Medway Electric Light & Power Co. and the Medfield Electric Light & Power Co. In 1907 the Woodville Electric Light Co. of Hopkinton and in 1909 the electric interests of the Newton & Watertown Gas Light Co., Waltham Gas Light Co., Chelsea Gas Lt. Co. and Brookline Gas & Electric Co. were purchased. In 1910 the company acquired the Lexington Gas & Electric Co. and in 1912 all the property except the generating station of the Hyde Park Electric Light Co. was purchased. Also in 1912 the electric light property of the Weston Electric Light Co. was taken over. The company now controls the entire electric light business of the city of Boston and vicinity and has a ten-year contract with the subsidiary companies of the Boston & Suburban Electric Companies to supply electricity for the street railways of that system. The electric light is supplied at the uniform rate of 10 cents per k. w. hour.

Population Served: The population of the territory served, based on the census of 1915, is 1,181,443.

Management: OFFICERS: C. L. Edgar, Pres. and Gen. Mgr.; W. C. Baylies, V.-P.; T. K. Cummins, Treas.; J. O. Wardwell, Clerk; W. H. Francis, Pur. Agt.; W. H. Atkins, Gen. Supt., Boston, Mass. DIRECTORS: C. F. Adams, Oliver Ames, Robert F. Herrick, W. C. Baylies, E. W. Burdett, I. T. Burr, T. K. Cummins, Robert Saltonstall, C. L. Edgar, G. R. Jewett, C. Minot Weld, E. V. R. Thayer. DATE OF ANNUAL MEETING: Second Tuesday in October. MAIN OFFICE: 39 Boylston St., Boston. EXECUTIVE OFFICE: 70 State St., Boston.

Comparative Income Account, Years Ended June 30

	1917	1916	1915	1914	1913	1912
Gross revenues	$9,235,778	$8,302,814	$7,429,124	$7,008,288	$6,365,874	$5,787,345
Operating exp. and taxes...	5,406,876	4,580,177	4,270,282	3,938,984	3,521,816	3,151,564
Net operating revenues.	$3,828,902	$3,722,637	$3,158,842	$3,069,304	$2,844,058	$2,635,781
Other income	197,967	124,051	118,910	57,134	103,957	74,969
Total net income.......	$4,026,869	$3,846,688	$3,277,752	$3,126,438	$2,948,015	$2,710,750
Fixed charges	407,059	276,235	371,475	399,615	390,065	242,860
Surplus above charges..	$3,619,810	$3,570,453	$2,906,277	$2,726,823	$2,557,950	$2,467,890
Margin of safety.........	**90%**	**93%**	**88%**	**87%**	**87%**	**91%**
Dividends paid	2,703,066	2,702,184	2,457,174	2,252,319	1,950,333	1,872,444
Final surplus	$916,744	$868,269	$449,103	$474,504	$607,617	$595,446
Earned on stock...........	16.07%	15.85%	14.19	13.32%	14.05%	15.82%

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ERJ 7-7-1917

Duluth-Superior Traction Company, Duluth, Minn.—The Duluth Street Railway, controlled by the Duluth-Superior Traction Company, has purchased the plant and 3-mile line of the Park Point Traction Company on Park Point, which is separated from the rest of the city by the ship canal. The deal was closed at a conference between A. M. Robertson, president of the Duluth Street Railway, and Robert R. Dunn, president of the Park Point Traction Company, in Duluth on June 26. President Robertson announced that his company would take over the operation of the line on July 1 and that a 5-cent fare with free transfer privileges to and from Park Point would go into effect on Sept. 1. The transfer privilege now costs 2 cents in addition to the 5-cent fare. The Park Point line cost $145,475 and there are outstanding $100,000 worth of income bonds and $14,000 worth of mortgage bonds issued in 1913. Mr. Dunn, the president, owned the controlling interest in the company. In 1916 the road was operated at a loss of $48.87.

Compromise in Duluth

Agreement Reached with City as a Result of Which Condemnation Proceedings Will Be Withdrawn

The Duluth (Minn.) Street Railway has entered into a compromise agreement with the City Council as a result of which condemnation proceedings to take over the system under municipal management will be dropped. The company agrees to the immediate construction of an extension of its line from Morgan Park to New Duluth, a distance of 2¾ miles, a 5-cent fare on all lines at the end of the war, or in any event not later than Jan. 1, 1920, and universal transfers on all lines now constructed or to be built within the city limits.

The agreement was reached at a conference on June 18 between the City Commissioners and A. M. Robertson, Minneapolis, president of the company. It calls for the operation of the New Duluth line before Dec. 31, 1917. The United States Steel Corporation, through whose property the extension will be projected, is now preparing the right-of-way at a cost to it of $146,000. Under the terms of the compromise the company will continue to charge an extra fare for rides west of Eighty-fourth Avenue West going west and east of Forty-ninth Avenue West going east on the Morgan Park-New Duluth line until the time fixed by the agreement. The attitude of the city officials in the matter is expressed by Mayor Magney, who said:

"In view of the unsettled world conditions the adjustment now made is probably the best that could be obtained. It complies with the original demands of the city from the street railway before condemnation proceedings were authorized by the City Council. Municipal ownership of the street railway system is simply deferred, and the condemnation proceedings may be instituted at any time the city may find it necessary. The policy of the street railway in the future will have to be different from that which it has pursued in the past."

P. G. Phillips, commissioner of public utilities and a staunch advocate of municipal ownership of all utilities, cast the only vote against rescinding the action of the Council in condemning the street railway system.

ERJ 7-7-1917

Duluth Fare Case Settled

In consideration of the withdrawal of legal proceedings against the Duluth (Minn.) Street Railway to test the validity of the 10-cent fare charged for rides between Duluth proper and its western suburb, Morgan Park, the company has agreed to put a 5-cent fare into effect after Jan. 1, 1918, on all of its lines in the city with universal transfer privileges. The City Council on June 18 agreed to drop condemnation proceedings against the property, and the company consented immediately to construct the New Duluth extension of its Morgan Park line and to put the 5-cent fare, with universal transfers, into effect on Jan. 1, 1920, or sooner if the war ended. The compromise reached on June 18 was reviewed on page 1157 of the ELECTRIC RAILWAY JOURNAL for June 23. On July 2, when the company announced that it would put the 5-cent fare into effect next January, instead of two years later, the litigation was dismissed. A. M. Robertson, president of the company, in a statement made before the City Council said:

"The concessions which the company is making to meet the demands of the public are costly and the city officials should consider carefully any further requests for extensions, particularly at this time when the prices of material and labor are so high."

Duluth Operates At a Loss

Increased Expenses Eat Up Gain in Gross—Surplus 10 Per Cent Less Than Last Year

The annual report of the Duluth-Superior Traction Company, Duluth, Minn., for the year 1919 shows that the cost of rendering service increased more during the past year than the gain in revenues. As a result the net income transferred to profit and loss at the end of the year was 12 per cent less than in 1918.

STATEMENT OF EARNINGS OF DULUTH-SUPERIOR TRACTION COMPANY

	1919	1918	Per Cent Change + Increase — Decrease
Revenue from transportation	$1,925,726	$1,656,139	+16.27
Revenue from other railway operations	11,417	9,770	+16.83
Total railway operating revenues	$1,937,143	$1,665,909	+16.29
Way and structures	$202,978	$183,496	+10.62
Equipment	213,235	154,617	+37.95
Power	205,432	197,226	+ 4.16
Conducting transportation	735,381	570,390	+28.95
Traffic	1,338	1,488	—10.08
General and miscellaneous	216,472	187,462	+15.48
Transportation for investment—Cr.	*1,722	* 997	+72.70
Total railway operating expenses	$1,573,114	$1,293,682	+21.57
Net operating revenue	$364,029	$372,227	— 2.20
Taxes assignable to railway operation	105,683	95,395	+10.79
Operating income	258,346	276,832	— 6.67
Non-operating income	22,293	20,575	+ 8.35
Gross income	$280,639	$297,407	— 5.64
Interest on funded debt	174,838	175,002	— 0 09
Interest on unfunded debt	110	1,015	—89.20
Miscellaneous debits	923	2,333	—60.50
Total deductions from gross income	$175,871	$178,350	— 1.40
Net income transferred to profit and loss	$104,768	$119,057	—12 00

* Deficit.

The gross revenues showed an increase of $272,951 or 16.22 per cent over the previous year and an increase of $315,049 or 19.15 per cent over the year 1917. The net income transferred to profit and loss for the year showed a decrease of $14,288 or 12 per cent as compared with the year 1918 and a decrease of $181,029 or 63.34 per cent as compared with the year 1917.

The increase in operating expenses was attributed to the continued high cost of materials and supplies used in the maintenance and operation of the property, and also to the two wage increases to the employees. The inability of the company to meet its increasing costs with a continual decreasing net revenue made it necessary to seek additional revenue; especially after the citizens in Duluth on April, 1919, had voted against municipal ownership.

In anticipation of the necessity of obtaining increased revenue the company on Sept. 1, 1919, started an appraisal of the property and on Dec. 4, 1919 renewed its efforts with the city of Duluth to obtain an increase in the unit rate of fare. Similar application is also pending before the Wisconsin Railroad Commission. Hearings have not yet begun, pending the completion of the valuation.

STATISTICAL STATEMENT OF THE DULUTH-SUPERIOR TRACTION COMPANY

	1919	1918	Per Cent Change + Increase — Decrease
Gross revenue	$ .959,436	$1,686,485	+16.22
Revenue passengers	38,475,440	33,088,747	+16.25
Transfer passengers	6,408,086	5,728,778	+11.85
Total passengers	44,883,526	38,817,525	+15.64
Mileage—first main track	57.04	57.04	.....
Total miles—all track	104 09	103.75	+ 0 34
Revenue from transportation—Per mile of line	$33,761	$29,000	+16.42
Per mile of single track	$18,515	$15,950	+16.10
Passenger traffic—Per mile of line	785,000	682,000	+14.80
Per mile of single track	448,000	374,200	+19.75
Operating ratio (per cent)	81 35	77 70	......
Per cent on $1,500,000 preferred stock earned and paid	4 00	4.00	
Per cent on $3,500,000 common stock earned	1 28	1.68	—0 40
Taxes—per cent of gross revenue	5 40	5 66	—0 26

An analysis of the accompanying table shows that passenger traffic increased more than 15 per cent with a corresponding increase of 16.27 per cent in passenger revenues. Operating expenses as a whole including depreciation based on the 4 per cent sinking fund method increased 21.57 per cent. The equipment and conducting transportation accounts show the greatest increase—these being 37.95 and 28.95 per cent respectively. The operating ratio increased from 77.7 in 1918 to 81.35 in 1919 or 3.65 per cent. Taxes increased $10,288 or 10.79 per cent notwithstanding the fact that the tax per $100 of gross revenue decreased 26 cents.

Table A.—Bond Records and Ratings (Based on Five Year Income Results, Etc.)

NAME OF ISSUE	Interest Payable	Maturity	Authorized	Outstanding	Average Income Available	Interest Required Per Annum	Factor of Safety	BASIS FOR RATING		Net Rating
								Security	Salability	
1. Duluth Ed. Elec. 1st 5s.........	M&S	Mr. 1931	$2,000,000	$1,172,000	$191,901	$58,600	69%	Strong	Good	Baa.

Note: For Key to Ratings and full information, see pages 11 to 18.

REFERENCE NOTE ON BOND ISSUE:

1. Dated March 1, 1906; due March 1, 1931; interest paid at Old Colony Trust Co., Boston, Trustee. Coupon, $1,000; registerable as to principal. Callable at 105 and int. upon six weeks' notice, or for sinking fund upon three weeks' notice. Sinking fund, $25,000 per annum. There are now $529,000 in fund and $108,000 in treasury in addition to those outstanding as above. Unissued bonds may be sold for improvement at 80% of cost of same, when net earnings are equal to twice interest charges on bonds outstanding and those to be issued. First lien on entire property. Company pays normal income tax of 2%.

Table B.—Stock Records and Ratings (Based on Five Year Income Results, Etc.)

NAME OF ISSUE	Rate of Dividend	Amount Outstanding	Average Income Available	Dividend Requirement	Factor of Safety	BASIS FOR RATING		Net Rating
						Equity	Salability	
1. Duluth Ed. Elec. 6% cum. pfd................	6% Qu. Ja.	$1,150,000	$118,764	$69,000	42%	Strong	Good	Ba.
2. Duluth Ed. Elec. com.........................	....	500,000	49,764	....	.....	Fair	....	Caa.

Note: For Key to Ratings and full information, see pages 11 to 18.

REFERENCE NOTES ON STOCK ISSUES:

1. Auth., $1,250,000; par, $100. Has preference as to assets and 6% cumulative dividends, and is callable at 120 and accrued dividends. Full rate regularly paid.

2. **Auth., $1,000,000; par, $100. Transfer agent, Guaranty Trust Co., New York.**

THE DULUTH-SUPERIOR TRACTION COMPANY

History: Incorporated under laws of Connecticut under special charter in January, 1897. In August, 1900, company acquired control through purchase of stock of the Duluth Street Ry., Lakeside Street Ry. Co. and the Superior Rapid Transit Co. These companies control the street railway lines of Duluth, Minn., and Superior, Wis., and operate under an exclusive franchise expiring in 1931. The company procures its power from the Great Northern Power Co. under a special contract. In 1917, acquired the property of the Park Point Traction Co.

Management: OFFICERS: A. E. Ames, Chairman of Board; A. M. Robertson, Pres.; Edmund Zacher, Vice-Pres. and Asst. Sec.; Herbert Warren, Vice-Pres. and Gen. Mgr.; S. L. Reichert, Sec. and Treas.; W. P. Dwyer, Aud., Duluth. DIRECTORS: A. M. Robertson, Horace Lowry, Minneapolis, Edmund Zacher, New Haven, Conn.; L. Mendenhall, Duluth, Minn.; W. H. Goadby, New York; A. E. Ames, F. H. Deacon, Toronto, Ont. ANNUAL MEETING: First Wednesday after fourth Tuesday in January at New Haven, Conn. OFFICE: Duluth, Minn., and New Haven, Conn.

Operating Statistics, Years Ended Dec. 31

	1920	1919	1918	1917	1916	1915	1914
Revenue passengers carried	38,167,565	38,475,440	33,088,747	32,196,521	28,081,851	23,185,970	25,912,155
Transfers redeemed	6,277,916	6,408,086	5,728,778	5,239,439	4,597,429	4,035,752	4,375,217
Operating expenses, including taxes	87.19%	85.68%	82.37%	71.88%	69.06%	77.19%	70.53%
Gross earnings per mile of road....	$33,469	$33,760	$29,035	$28,279	$29,684	$25,710	$28,671

Comparative Income Account, Years Ended Dec. 31

	1920	1919	1918	1917	1916	1915	1914
Gross revenues	$1,919,579	$1,937,143	$1,665,910	$1,621,952	$1,407,511	$1,164,446	$1,289,917
Operating expenses, taxes, etc.	1,696,559	1,678,798	1,389,078	1,181,979	984,086	910,839	926,512
Net operating revenues	$223,020	$258,345	$276,832	$439,973	$423,425	$253,607	$363,405
Other income	26,308	22,294	20,575	22,435	16,918	15,514	23,647
Total net income	$249,328	$280,639	$297,407	$462,408	$440,343	$269,121	$387,052
Fixed charges	175,480	175,871	178,350	176,611	172,342	172,699	177,372
Surplus above charges	$73,848	$104,768	$119,057	$285,797	$268,001	$96,422	$209,680
Margin of safety	30%	37%	40%	62%	61%	36%	54%
Preferred dividends	60,000	60,000	60,000	60,000	60,000	60,000	60,000
Common dividends	....	....	105,000	70,000	....	35,000	140,000
Final surplus	$13,848	$44,768	(df.) $45,943	$155,797	$208,001	$1,000	$9,680
Earned on preferred	4.9%	6.9%	8%	19%	17.9%	6.4%	14%
Earned on common	.4%	1.2%	1.7%	6.4%	5.9%	1%	4.3%

Note: For explanation of Margin of Safety, etc., see pages 16 to 18.

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Comparative Condensed Balance Sheet, as of Dec. 31

ASSETS:	1920	1919	1918	1917	1916	1915
Roadway, equipment, etc....	$9,736,882	$9,665,766	$9,578,069	$9,506,489	$9,153,053	$9,000,780
Cash on hand	74,239	46,769	29,090	58,256	35,388	57,808
Bills and accts. receivable....	19,646	22,075	82,842	76,890	75,029	5,819
Investments	212,398	162,798	32,708	13,854	....	....
Material and supplies	150,845	163,672	149,929	136,426	100,660	93,334
Prepaid accounts	10,773	4,342	6,370	8,215	....	1,597
Accrued interest	6 533	6,050	5,147	3,881	4,088	2,41
Accounts to be adjusted	2,160	1,580	240	465	3,388	2,077
Reserve fund invested	273,493	273,493	273,493	273,493	273,493	273,493
Total	$10,486,969	$10,346,545	$10,152,887	$10,077,969	$9,645,094	$9,437,320
LIABILITIES:						
Common stock	$3,500,000	$3,500,000	$3,500,000	$3,500,000	$3,500,000	$3,500,000
Preferred stock	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000
Bonded debt	3.500,000	3,500,000	3,500,000	3,500,000	3,410,000	3,272,000
Current accounts .... Approved vouchers	97,455	83,594	90,517	73,963	56,471	189,905 46,543
Accrued taxes, not due	90,290	89,709	82,609	106,084	58,287	54,118
Interest on bonds, not due ...	29,489	29,327	29,489	29,487	28,731	27,417
Reserves, depreciation, etc. ..	1,166,333	1,019,308	867,951	737,508	621,017	508,181
Unadjusted credits	8,520	8,355	6,318	8,306	....	....
Surplus	594,882	616,252	576,003	622,621	470,588	339,156
Total	$10,486,969	$10,346,545	$10,152,887	$10,077,969	$9,645,094	$9,437,320

Table A.—Bond Records and Ratings (Based on Five Year Income Results, Etc.)

NAME OF ISSUE	Interest Payable	Maturity	Authorized	Outstanding	Average Income Available	Interest Required Per Annum	Factor of Safety	BASIS FOR RATING		Net Rating
								Security	Salability	
1. Duluth St. Ry. 1st 5s...........	M&N	My 1930	$2,500,000	$2,500,000	$346,025	$125,000	64%	Strong	Good	Baa.
2. Duluth St. Ry. gen. 20-yr. 5s....	M&N	My 1930	2,500,000	1,000,000	221,025	50,000	78%	Fair	"	Ba.

Note: For Key to Ratings and full information, see pages 11 to 18.

REFERENCE NOTES ON BOND ISSUES:

1. Dated May 1, 1900; due May 1, 1930; int. paid at Central Union Trust Co., New York. Coupon, $1,000. First lien on entire property of Duluth Street Railway Co. Underlies No. 2 Company does not pay normal income tax.

2. Dated May 1, 1910; due May 1, 1930; int. paid at Central Union Trust Co., New York. Coupon, $1,000. Callable on 30 days' notice at 105 and int. Sinking fund, 2½% per annum of outstanding bonds, beginning May 1, 1913. Unissued bonds are reserved for improvements at five-sixths of cost, but only when net earnings equal twice interest charges. Guaranteed principal and interest by endorsement by The Duluth-Superior Traction Co., which owns all stock of The Duluth Street Railway. Follow No. 1 on entire property, consisting of 104.01 miles of street railway in Duluth, Minn., and Superior, Wis. Company does not pay normal income tax.

Table B.—Stock Records and Ratings (Based on Five Year Income Results, Etc.)

NAME OF ISSUE	Rate of Dividend	Amount Outstanding	Average Income Available	Dividend Requirement	Factor of Safety	BASIS FOR RATING		Net Rating
						Equity	Salability	
1. Duluth-Superior Tr. 4% cum. pfd.............	See text	$1,500,000	$170,294	$60,000	65%	Fair	Fair	Caa.
2. Duluth-Superior Tr. common................	"	3,500,000	110,294	.....	....	Low	"	C.

Note: Dividend requirement on preferred is the requirement at the rate of 4% per annum (none now being paid). For Key to Ratings and full information, see pages 11 to 18.

REFERENCE NOTES ON STOCK ISSUES:

1. Authorized, $1,500,000; par $100. Has preference as to assets and 4% cumulative dividends. Dividends can be increased to 8% with consent of all common stockholders. Regular 4% rate paid 1901, to April, 1921; none in July, 1921.

2. Authorized, $3,500,000; par $100. Dividends: In 1909 and 1910, 4%; 1911 and 1912, 5%; 1913, 4¼%; 1914, 4%; 1915, 1%; 1916, none; 1917, 2%; 1918, 3%; none since.

Transfer Agent: Farmers Loan & Trust Co., New York. Registrar: Central Union Trust Co., New York. Both issues listed on New York Stock Exchange. Common also listed on Toronto and Montreal Stock Exchanges.

EASTERN MASSACHUSETTS STREET RAILWAY COMPANY

History: Incorporated Jan. 15, 1919, in Massachusetts, pursuant to the terms of a special act of the Legislature (Chapter 188, Special Acts of 1918), to acquire substantially all the assets of the Bay State Street Ry. Co., the property of which company was bid in at judicial sale on April 21, 1919, for $3,600,000, by Arthur I. Glidden, in behalf of Lee, Higginson & Son, Boston, the Reorganization Managers, subject to the taking over of various obligations, including those of the Bay State Street Ry. receivership and mortgages of the Boston & Northern Street Ry. and the Old Colony Street Ry. The sale was confirmed on April 26, 1919, by Federal Judge James M. Morton, Jr., in the U. S. District Court at Boston, Mass.

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Traffic and Transportation

Discontinuance of Freight Facilities Results in Hardship

A petition has been presented to the Public Service Commission of Pennsylvania by the Allentown Chamber of Commerce asking that trolley freight service between Philadelphia and Allentown over the Philadelphia & Western and Lehigh Valley Transit Company be restored. Discontinuance of this service was allowed by the Public Service Commission on June 1 upon petition of the Philadelphia Rapid Transit Company, but loss of these facilities has not only resulted in the diversion of much freight from Philadelphia but is working a hardship among wholesale and retail dealers at Allentown, the Chamber of Commerce contends. Nearly all the fruit and produce for Allentown was shipped via the trolley lines, but since the service was discontinued many dealers are buying from the New York markets. A hearing on the matter will be given in the early fall.

Better Service Promised

General Superintendent Purinton of the Atlantic City & Shore Railroad Company has accepted the proposals submitted by Public Utility Commissioner Harry Bacharach to give Ventnor and Margate City better trolley service. Under the arrangement through service is to be established to Ventnor and Margate from the Inlet, Atlantic City, for the single 7-cent fare. The company will be permitted to continue a cut-off at Jackson Avenue, the boundary between Atlantic City and Ventnor, but will grant transfers whenever passengers desire to proceed farther south. More cars are also promised.

Residents of Ventnor City recently circulated petitions asking the Board of Public Utility Commissioners to probe the service and double fare of the Atlantic City & Shore Railroad, operators of the only trolley system on the island. Since last March Ventnor City and the railway management have been endeavoring to get together on some agreement that would give Ventnor adequate service.

Solves Problem by Operating Supplementary Bus Service

In an effort to put an end to the jitney problem in Tulsa the Tulsa (Okla.) Street Railway has put several passenger buses in operation as a supplement to its electric railway service. B. Hilburn, general manager of the company, who recently announced that in addition to the six 16-passenger buses received from Lima, he would purchase three more 25-passenger buses, said that the use of the buses was practical when co-ordinated with the railway. In a letter to the Public Utility Information Bureau he stressed the part that buses would play in future city transportation, but said that they would serve all interests best when operated in connection with the electric railways.

Jitney operation in Tulsa has been instrumental in retarding the progress of the railway property. This year the city administration agreed to eliminate jitney service on the East Sixth Street line and to eliminate a new bus line which paralleled the Kendall line of the Tulsa Railway for practically the entire length of the line. An arrangement was made whereby the Tulsa Street Railway was to operate buses on these lines, supplemental to its street car service, and on July 1 the company put into operation four twenty-five-passenger buses. On July 25 the company added one more twenty-five-passenger bus. These buses are operating on a schedule of nine minutes in the light part of the day, and seven minutes during the rush hours. By Oct. 1 the company expects to have sixteen passenger buses in service in Tulsa.

Duluth Case in Courts

Railway Authorized by Court to Charge Six-Cent Fare, but Must Issue Rebate Slips—Digest of Decision of Commission in the Rate Case Affecting the Duluth Street Railway

ALTHOUGH the Duluth (Minn.) Street Railway has been granted the right to collect a straight 6-cent fare by the Federal Court, it has been ordered by the same court to issue a rebate coupon for 5 cents with each six tickets purchased by a patron. The coupons are to be redeemable only in the event that the United States Supreme Court reverses the United States District Court's order granting the straight 6-cent fare. The company must be ready to comply with the rebate coupon order on Sept. 7, when it goes into effect.

The order for the rebate coupons was in the form of an amendment to the interlocutory injunction issued on July 31, placing the flat 6-cent rate in effect in Duluth on Aug. 1. City Attorney John B. Richards petitioned the court for the rebate coupons and Federal Judges Walter Sanborn, W. F. Booth and Martin J. Wade granted his application. The city is now preparing to appeal to the United States Supreme Court from the interlocutory injunction granting the 6-cent rate. The papers will be filed within a few days.

The original request was for an increase in fares from 5 to 7 cents, with four tokens for a quarter, but the order of the commission provided for a 6-cent fare and five tokens for a quarter. In obtaining an injunction, which the company now wishes to make permanent, it claims that a 6-cent fare, with five tokens for a quarter, will give no relief at all and would eventually cause the confiscation of its property.

The history of the case is reviewed by the commission in the decision which it handed down in passing upon the fare application. It is explained that pursuant to provisions of chapter 278 of the laws of 1921 the city of Duluth caused the property of the petitioner to be examined and appraised and submitted such appraisal as a part of the record in this case to the commission for its consideration. The representatives of the city and the company in many respects agreed upon the inventory and appraisal submitted. The property was appraised upon four different bases as follows:

Upon the cost of reproduction of the property based upon 1915 prices.

Upon the cost of reproduction of the property based upon the average of prices for ten years ending July 1, 1921.

Upon reproduction cost based on prices as of July 1, 1921, and

Upon a reproduction cost based upon units used in the actual construction of the property, or an investment basis.

The engineers representing the city and the company further agreed upon an inventory of the property and the appraisal, this inventory, so far as it affects all the physical property, excepting land, working capital, general overheads (engineering and superintendence, administration, organization and legal expenses), taxes during construction, interest during construction and cost of financing, development costs or going concern value, cost of power contract and accrued depreciation or present per cent condition of the property.

The agreed figures of the physical property, with the above exclusions, undepreciated, were as follows:

1915 prices, $3,488,161.
Ten year average, $4,864,437.
1921 costs, $6,308,966.
Reproduction or investment basis. $3,487,020.

The attitude of the commission was that these figures demonstrated that there had been an increase in replacement costs for this property, that at the present time all things were on a higher cost basis than that in existence during the period of construction of this property, and that there was an appreciation in value to be reflected in the final value for rate-making purposes.

The city and company also introduced figures to represent estimated cost of reproducing the property on the investment basis, or, in other words, to build up a figure to represent the original investment of the property as it exists at present. The city presented a total figure, undepreciated, of $4,504,638, while the company claimed $6,336,093. The investment account of the company, as of July 1, 1921, showed approximately $4,800,000.

According to the commission an analysis of the investment account showed that there was included therein money placed in the property in the early days of the company which had either been retired or had become obsolete, so that the present investment account contained the cost of certain items discussed by the commission under "Going concern value" and disallowed by the commission.

In connection with its claims the company set up a value of $150,735 for land. The city, through its assessor, placed a value on these lands of $118,094. The commission, however, found the fair value of the land to be $140,000.

GOING CONCERN AND OTHER ISSUES

The city and the company agreed upon the amount invested in materials and supplies to be $105,787. The balance of the working capital to be allowed was disputed, the company claiming $87,312 and the city allowing $24,213. Mr. Drum, the company's engineer, based his estimate upon an average of one-half month's current operating expenses and six months' capital expenses based on the year 1920. The one-half of capital expenditures amounted to $32,775. The attitude of the commission was that the company should be allowed $30,000 as a reasonable amount for working capital. The contention of the city was that as some of the general overheads were included in the unit prices, the balance of overheads should be less than 15 per cent. The company's engineer submitted specific amounts for each of the general overheads enumerated and not included in the original units used, his total varying from 18 to 20 per cent, depending upon basis of valuation.

After receiving the evidence the commission found that a reasonable allowance for general overheads was as follows:

> Engineering and superintendence, 5 per cent; administration, organization and legal expenses, 2 per cent; taxes during construction, 2 per cent; interest during construction, 5 per cent; or a total of 14 per cent on the physical inventory of the property for these items.

The company maintained that to the value of the property, including physical value, materials and supplies, general overhead and working capital, there should be added the sum of 5 per cent as a cost of financing. The city contended that the cost of financing should be considered in determining the rate of return. The attitude of the commission on this point was that, over a long period of years with changing relationships between stock issues and other security issues, the most practical method of providing for the cost of financing, in this case, was by giving due credit for such costs in the rate of return allowed upon the fair value of the property.

On the matter of going concern value the disposition of the commission was to recognize the principle that a utility in the determination of its fair value for rate-making purposes should have included what has been termed as going concern value. The company contended for an addition to the physical value of the present property sums aggregating $693,688 for expenditures or investments in property not now in existence. On this issue the commission said:

> It is a well-established practice, based on sound economics, that reserves should be established to provide for the replacement of property either destroyed or become obsolete due to development of the area. If the company failed to build up reserves from the so-called horse car period, which ended in 1890, any loss due to the change in the property should have been amortized in the immediately succeeding years. This statement also applies to each of the succeeding items claimed by the company. To capitalize such items at the present time would incorporate in the property a fictitious value, which has long since ceased to exist.

The commission quoted the famous Galveston case in connection with the claims made by the company for the cost of unifying the system and the loss of interest during operation. In analyzing all of these factors the commission found $500,000 to be a reasonable value to be added to the physical value of the property of the railway, in order to make said property an operating system.

VALUE FIXED AT $5,375,000

In summary, the commission found that the fair value of the property of the railway undepreciated, was $5,375,000.

The company arrived at a condition per cent of the property averaging for the four bases of value presented of 86.02 per cent, while the city used 83.57 per cent. The commission found that the present condition precentage of the property was approximately 83 per cent and that this condition per cent of the property, in order to arrive at the present value, should be applied to the items including physical plant, less lands and plus the general overheads allowed.

The commission found that as of July 1, 1921, the fair value of the property was $4,593,000, summarized as follows:

Physical property undepreciated	$3,940,000
Excluding land—	
General overheads	550,000
Power contract	110,000
	$4,600,000
Depreciated value	$3,818,000
Lands	140,000
Working capital, materials and supplies	135,000
Going concern	500,000
	$4,593,000

The company contended for a rate of return not less than 8 per cent upon the fair value of the property as found by the commission. This claim was based upon expert testimony as to the going rate of interest and cost of financing of utility properties during the year 1921 experience and immediately preceding years.

The opinion of the commission was that the current rate of interest had materially declined and that a return of 7½ per cent was reasonable and would produce sufficient revenue to finance the company properly.

In determination of a rate of fare to be charged the commission found that there was a large class of riders who were the daily patrons of the company and produced a very large portion of the revenue. The remaining patrons of the company were transients within the city or individuals who rode occasionally. It was the opinion of the commission that the daily patrons and supporters of the railway who find it necessary to patronize the company going from their home to their work, should have as low a fare as is possible and still maintain the company in a position to furnish reasonable service. The commission therefore found that a 6-cent cash fare, together with tickets or tokens to be sold five for 25 cents, were just, fair and reasonable rates and would yield only a reasonable return upon the fair value of the property. In conclusion the commission said:

> Therefore, it is ordered, That the commission finds that the fair value of the property of the Duluth Street Railway within the city of Duluth, used and useful in giving service as of Dec. 31, 1921, is $4,599,978.
>
> Second, That the Duluth Street Railway is hereby authorized to charge for its service in the transportation of passengers within the city of Duluth, 6 cents cash fare, and shall issue tickets or tokens good for rides on its said lines within the city of Duluth and charge therefor not to exceed 25 cents for five rides, effective Aug. 1, 1922.

Suspension of Increased Rates Ordered

The Public Service Commission has ordered a further suspension in the increased tariffs of passenger fares on the interurban and Niagara Falls and Lockport city lines of the International Railway, Buffalo, N. Y. The increases were to have gone into effect on Aug. 30. The tariffs thus further suspended provided for increasing the city fares in Niagara Falls and Lockport from 5 to 7 cents or four tokens for 25 cents; in Tonawanda and North Tonawanda to 10 cents, and the price of books for single-trip tickets between Niagara Falls and LaSalle would have been increased from $1 to $1.50.

Railway Transports Autos When Roads Are Bad

The Buffalo & Lake Erie Traction Company, Buffalo, N. Y., has discontinued for the time being the "automobile ferry" service on the Lake Shore highway between Whitehouse, N. Y., through Ripley to a point east of the Twenty Mile Creek hill. According to the company the roads are now passable, but whenever they get in bad shape the railway puts flat cars in service to transport autos. The service was made available to motorists by the traction company at the request of the Erie (Pa.) Automobile Club.

The haul is about 6 miles and the charge is $5 for each machine regardless of size. The service is performed each way every hour. The railway uses a motor work car with a flat car attached and can handle four autos at one time. As many as thirty-one autos have been handled in one day.

3-31-1923

Duluth Street Railway Valued

Valuation Estimates Presented by Consulting Engineers Before State Commission—Cost of Power and Bridge Contracts Included as Items of Value

ON FEB. 6 Mr. Drum of A. L. Drum & Company, Chicago, completed his testimony in the rate case of the Superior division of the Duluth Street Railway before the Railroad Commission of Wisconsin at Madison, Wis. An inventory of the property was made as of Oct. 1, 1922, and valuations of the property were prepared and submitted on four bases, namely, pre-war costs, ten-year average cost, post-war cost as of June, 1921, and estimated original cost at prices current as of date of installation. A table showing the summary of the physical property on these four bases is printed herewith, showing the percentage relationship of the latter three bases to the pre-war cost.

It is interesting to note that the valuation based on estimated original cost compares very closely with pre-war cost, being only 3.72 per cent higher than the pre-war cost, while the ten-year average cost shows an increase of 36.20 per cent, and June, 1921, prices show an increase of 76.96 per cent over pre-war costs.

In addition to the valuation of the physical property Mr. Drum submitted valuations showing the developmental cost of the property, value of a bridge contract, which permits of operation over the bridge connecting Superior, Wis., with Duluth, Minn., without additional bridge toll to the passengers of the street railway system, and value of the power contract. The value of the power contract was based on the cost to the company in obtaining this contract and perfecting a satisfactory source of power supply from the hydro-electric plant of the Great Northern Power Company. The power company paid the cost of maintaining the company's steam plant in operating condition from 1908 to 1914, while the power company was demonstrating its ability to furnish all power required, but the railway company was required to pay the insurance, taxes and interest on the plant from 1908 to 1915, when the steam plant was finally abandoned, and also suffer the loss of the investment in the plant equipment (less salvage), and these items were properly submitted as the actual cost to the street railway company in obtaining the power contract. These costs summarize as follows:

Cost of power station, land, building and equipment less salvage....	$47,702.79
Interest on amount of salvage Jan. 1, 1908, to Dec. 31, 1915, at 6 per cent..........	5,015.76
Taxes paid on power station Jan. 1, 1908, to Dec. 31, 1915..........	5,551.34
Insurance paid on power station Jan. 1, 1908, to Dec. 31, 1915......	2,783.59
Total cost of power contract..........	$61,053.48

To show that this cost in securing and perfecting the power supply was a proper expenditure on the part of the company estimates were made of the resulting saving in cost of power, as given in the table below.

	Investment on Basis of Present-Day Prices	Investment on Basis of Pre-War Prices
Total investment required for 1,500-kw. steam station and 1,500-kw. substation..........	$273,500	$183,600
Cost of manufacture of power, present-day prices:		
Coal..........	21,350	21,350
Labor..........	12,900	12,900
Maintenance, supplies and general..........	7,500	7,500
Total operating expense..........	41,750	41,750
Fixed charges, interest, depreciation, taxes and insurance..........	34,200	22,950
Total cost of power..........	$75,950	$64,700
Cost of power per kw.-hr., 4,000,000 kw.-hr., a.c..........	$0.0190	$0.0162
Cost of power per kw.-hr., 3,720,000 kw.-hr., d.c..........	0.0204	0.0174
Cost of power purchased under contract..........	0.0100	0.0100
Saving per kw.-hr..........	$0.0104	$0.0074
Saving per year (3,720,000 kw.-hr.)..........	$38,688	$27,528
Present value of future saving from Oct. 1, 1922, to Nov. 17, 1931, each annual saving being discounted at 8 per cent from the end of its year to Oct. 1, 1922......	$244,972	$174,307

COMPARATIVE SUMMARY OF COST OF REPRODUCING AND DEVELOPING THE PROPERTY OF THE SUPERIOR DIVISION, DULUTH STREET RAILWAY, AS OF OCT. 1, 1922, SHOWING PER CENT RELATIONSHIP OF BASES 2, 3 AND 4 TO THE PRE-WAR COST, BASIS NO. 1.

	Basis No. 1 Pre-War Cost Current Prices 1915	Basis No. 2 Ten-Year Average Cost Average Prices 1912-1921		Basis No. 3 Post-War Cost Prices Current June, 1921		Basis No. 4 Estimated Original Cost Prices Current Date of Installation	
Physical property	Amount	Amount	Per Cent of 1915	Amount	Per Cent of 1915	Amount	Per Cent of 1915
Land..........	$23,200	$23,200	100.00	$23,200	100.00	$23,200	100.00
Track..........	560,483	783,423	139.79	1,057,475	188.69	612,425	109.27
Paving..........	69,472	76,470	110.07	84,468	121.58	71,398	102.77
Electrical distribution system..........	68,137	89,441	131.27	105,578	154.95	68,137	100.00
Rolling stock..........	235,125	361,364	153.69	485,207	206.36	235,842	100.31
Shop machinery and tools and miscellaneous equipment..........	35,339	46,216	130.78	56,235	159.13	35,339	100.00
Buildings..........	61,329	81,823	133.41	101,627	165.71	49,853	81.29
Furniture and fixtures..........	7,346	11,602	157.92	16,530	225.00	6,245	85.02
Materials and supplies..........	38,113	38,113	100.00	38,113	100.00	38,113	100.00
Total inventoried property..........	$1,098,544	$1,511,652	137.60	$1,968,433	179.19	$1,140,552	103.82
Expenditures not apparent in inventory..........	204	204	100.00	204	100.00	204	100.00
Total..........	$1,098,748	$1,511,856	137.60	$1,968,637	179.19	$1,140,756	103.82
Engineering and superintendence..........	54,937	75,593	137.60	98,432	179.19	57,038	103.82
Total..........	$1,153,685	$1,587,449	137.60	$2,067,069	179.19	$1,197,794	103.82
General and miscellaneous costs							
Administration, organization and legal expense..........	$57,684	$79,372	137.60	$103,353	179.17	$59,890	103.83
Taxes during construction..........	16,842	16,532	98.16	25,630	152.18	16,842	100.00
Interest during construction..........	73,693	101,001	137.06	131,763	178.80	76,472	103.77
Working capital..........	31,074	31,074	100.00	31,074	100.00	31,074	100.00
Total general and miscellaneous costs..........	$179,293	$227,979	127.15	$291,820	162.76	$184,278	102.78
Cost of financing..........	66,649	90,772	136.19	117,944	176.97	69,103	103.68
Total cost to reproduce the physical property as of Oct. 1, 1922..........	$1,399,627	$1,906,200	136.20	$2,476,833	176.96	$1,451,175	103.72
Power and bridge contracts							
Cost of power contract..........	$61,053	$61,053	...	$61,053	......	$61,053	......
Value of bridge contract..........	78,125	78,125	...	78,125	......	78,125	......
Total power and bridge contracts..........	$139,178	$139,178	......	$139,178	......	$139,178	......
Developmental costs							
Expenditures for obsolete equipment and construction..........	$376,656	$376,656	......	$376,656	......	$376,656	......
Cost to unify system..........	22,905	22,905	......	22,905	......	22,905	......
Loss of interest during operation..........	111,970	152,496	......	198,147	......	116,094	......
Total developmental costs..........	$511,531	$552,057	......	$597,708	......	$515,655	......
Total cost of reproducing and developing the property, including value of power and bridge contracts..........	$2,050,336	$2,597,435	......	$3,213,719	......	$2,106,008	......

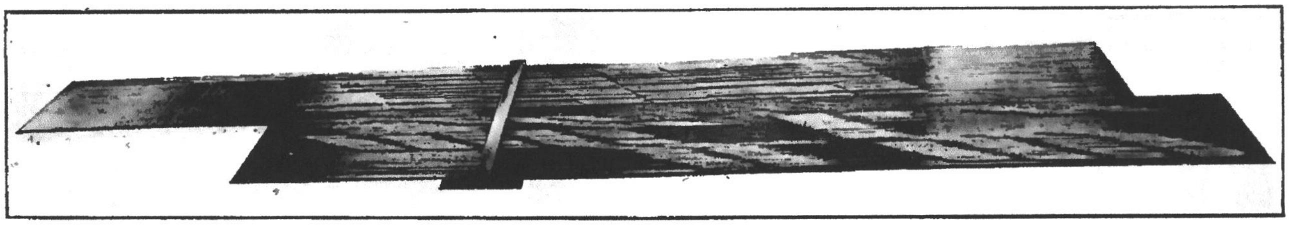
The discussion at the hearing indicated that both the commission and the company were confronted with a difficult problem in determining a reasonable rate of fare on account of the company having been unable to reach an agreement with the city of Superior with respect to the regulation of the jitney traffic and the introduction of one-man cars. The general opinion was that a joint conference between the Wisconsin commission, the city and the company should be had at which reasonable requirements as to the regulation of the jitney traffic and the use of one-man cars could be agreed upon, based on which the commission could determine a new rate of fare. During the hearing the Supreme Court of Wisconsin rendered a decision in the so-called Superior jitney case, removing the control of jitneys from the jurisdiction of the cities of Wisconsin and placing the regulation of jitneys under the Wisconsin Railroad Commission.

Visualizing Schedules

By Means of a Large Board, with Grooves to Hold Sticks Representing Various Runs, a Picture Is Obtained of the Equipment in Operation and the Possibilities for Expansion or Contraction of the Service

PROBABLY the most common method used for showing at a glance the service furnished on a particular line is by a graphic layout of the timetable. In perfecting the timetable, however, frequent changes are necessary, and with the graphic method each change usually requires the replotting of the graphs. A method of visualizing the timetable that is very flexible and which shows at a glance the cars in service, the headway, the layovers, the setbacks, the time at division points, the number of crews required and the time that they are on duty, together with the possibilities of expansion and contraction of service, to meet various traffic requirements, is illustrated herewith. The idea originated with C. E. Chalmers, receiver for the Second Avenue Railroad, New York, N. Y., and was worked out by his engineering and timetable departments.

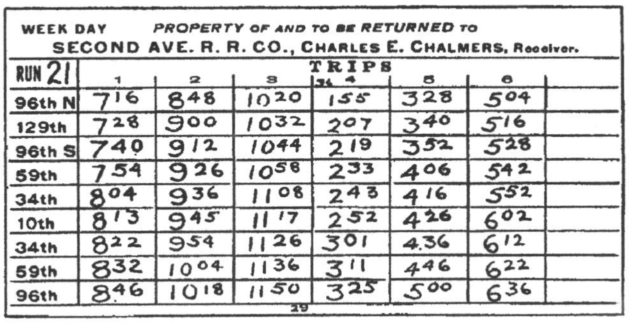
The apparatus used includes a large board and numerous trip sticks to designate the various runs. The board is 34 in. wide and 18 ft. long. Two boards are used to give the total width and by having offsets at either end the total length is increased and the space at the offset would never be used in the various layouts. The board is ruled with lines crosswise to indicate time intervals, different colored inks being used for convenience. On the Second Avenue Railroad's board time intervals are laid off horizontally, the scale being ⅛ in. for each minute or 7½ in. to the hour. Longitudinal grooves run the full length of the board. These are made to fit the trip sticks, which are 5/16 in. in diameter. There is a total of eighty-six grooves in the width of the board.



Test Board Used for Checking Timetables of the Second Avenue Railroad

The trip sticks are of wood and their length represents a round trip, the scale for time intervals of course being the same as that for the board, ⅛ in. to the minute. The trip sticks are marked to indicate division points. On the Second Avenue routes there are seven intermediate time points in addition to the ends, which of course represent the same point since the trip sticks are for round trips. These time points are marked with different colored inks. The same color is used to indicate a particular time point on all trip sticks.

Since the times of layovers at the end of runs vary somewhat, these are not included in the length of the trip sticks, but in laying out the schedule spaces are left between the different trip sticks which indicate the layovers. This method eliminates a large number of different lengths of trip sticks, which of course simplifies the laying out of the timetable.



WEEK DAY PROPERTY OF AND TO BE RETURNED TO
SECOND AVE. R. R. CO., CHARLES E. CHALMERS, Receiver.

RUN 21	TRIPS 1	2	3	4	5	6	
96th N	716	848	1020	155	328	504	
129th	728	900	1032	207	340	516	
96th S	740	912	1044	219	352	528	
59th	754	926	1058	233	406	542	
34th	804	936	1108	243	416	552	
10th	813	945	1117	252	426	602	
34th	822	954	1126	301	436	612	
59th	832	1004	1136	311	446	622	
96th	846	1018	1150	325	500	636	

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Trip Card Used for Schedules of the Second Avenue Railroad

LAYING OUT OF THE TIMETABLE

With the board and trip sticks constructed the timetable may be laid out to visualize several different factors as desired. First, it may be laid out by crews. This shows both the regular and extra runs and shows how the swing runs must be laid out to take care of the extra service during peak hours and to provide for lunch periods for the various crews. In the accompanying illustration of the board the bottom part is laid out by this method. The regular runs are at the bottom and the swing runs just above these. By referring to this illustration, it will be seen that starting with the regular runs in the morning four round trips are made

Financial and Corporate

Purchase Talk Revived at San Francisco

The special committee appointed by Mayor Rolph of San Francisco, Cal., to consider purchase of the Market Street Railway is scheduled for a meeting at which it is expected arrangements will be made for further negotiations with officials of the Market Street Railway to try to bridge the difference in valuations.

The Council has before it a revised appraisal of the Market Street Railway just completed by Fred Bullock, special accountant. It is said that his figures will bring the valuation up to nearly $30,000,000, compared with $27,000,000 three years ago.

Alternative plans for carrying out the proposal have been suggested as follows:

1. Vote bonds either for the entire purchase price or enough to provide a down payment to the company.
2. Amend the charter to permit an increase of fares to 6 cents to provide greater revenue in a "pay-as-you-go-plan."

When negotiations were in progress earlier in the year, the "pay-as-you-go-plan" was agreed upon as the best means of financing the purchase. It is said now that the adoption of a plan of this kind would be out of the question, particularly under the increased schedule now in force to trainmen.

Refunding Plan at Worcester to Be Modified

Instead of drawing up a new consolidated mortgage the Worcester Consolidated Street Railway, Worcester, Mass., has altered its plans and will use a first mortgage instrument, under which $3,551,000 bonds are held in the treasury unissued.

In November a petition was filed with the Massachusetts Public Utilities Commission requesting authority to set up a mortgage, subject to underlying liens, whereby $7,000,000 in consolidated mortgage bonds could be issued primarily to retire maturing bonds. Because of the size of the underlying liens, it was finally decided that the offering would probably meet with greater success and command a better price if the old first mortgage was used as the financing instrument. The company therefore plans to withdraw the petition before the Public Utilities Commission and ask authority to issue additional bonds under the old first mortgage.

The maturities of the company during the next 3 years total $3,083,000 Under the first mortgage, which is known as the Worcester Consolidated Street Railway first and refunding mortgage, the company issued $1,449,000 of 4½ per cent bonds in 1910. As the authorized limit is $5,000,000 the company still holds $3,551,000 unissued bonds.

A problem before the company is the interest rate. It is probable that the new securities will carry an additional coupon to be cashed with the semi-annual 2¼ per cent coupon.

Approval of Permanent Financing Measure Sought in Philadelphia

W. C. Dunbar, president of the Philadelphia Rapid Transit Company, Philadelphia, Pa., has submitted the draft of an ordinance to the president and members of the City Council seeking permission definitely and permanently to place its $10,000,000 5 per cent issue authorized in 1911. Two changes are desired in the financing of these bonds in order to take advantage of the present favorable market conditions. First, the company wishes to increase the interest rate from 5 per cent to 6 per cent, which will enable it to sell the bonds at or near par. Second, it is desired to make the bonds a direct mortgage lien upon the Market Street Elevated Passenger Railway. The statement says that this is a change in form but not in substance, since under the existing provisions of the indenture now securing the issue the entire equity in the Market Street property is indirectly pledged. The proceeds derived from the sale of these bonds will be used, first, to pay off the loan already secured and for which these bonds are now held as collateral, and, second, to finance the down payment upon the equipment purchased under the P. R. T. series "H" equipment trust and for other additions and betterments to property.

Duluth Valuation Fixed at $5,009,510

Court Decides 6-Cent Fare, with Five Tickets for 25 Cents, Confiscatory—Adds 40 per Cent to Pre-War Cost of Pre-War Property to Give Effect to Present Day Prices

JUDGE WILBUR F. BOOTH of the District Court of the United States for the District of Minnesota on Dec. 29, 1924, rendered a decision in the suit brought by the Duluth Street Railway to enjoin the enforcement of an order of the Railroad and Warehouse Commission of Minnesota fixing the rate of fare at 6 cents cash with five tickets for 25 cents. The city of Duluth appeared as intervenor-defendant in the suit. The court fixed the fair rate base at $5,009,510 and found a 7½ per cent rate of return reasonable. The decision was referred to briefly in the ELECTRIC RAILWAY JOURNAL for Jan. 10, page 73.

On July 13, 1922, the Railroad and Warehouse Commission made its first finding of fair value, rate of return and rate of fare. This it did under the new statute of the state of Minnesota enacted April 14, 1921, under which the street railways of the state were authorized to surrender existing franchises with the municipalities and accept indeterminate permits of the state of Minnesota, subject to regulation by the state commission and subject to an appeal providing for the trial of the case *de novo* by the state courts of Minnesota and consequently requiring the introduction of detail evidence of the inventory, valuation, etc., in such case.

SIX-CENT FARE UNDER COURT ORDER

The Duluth company secured from the United States District court, Judges Sanborn, Morris and Booth presiding, a temporary restraining order permitting the charge of a 6-cent cash fare and compelling the company to issue receipts to passengers desiring to take advantage of the 5-cent ticket rate and the revenue representing such receipts to be held in escrow pending the final decision of the United States court in respect to the rate of fare. The case was tried before the Special Master in Chancery, who rendered his report to the United States court on Dec. 10, 1923. Exceptions were filed by

COMPARATIVE VALUATIONS OF DULUTH STREET RAILWAY—DULUTH DIVISION

	A. L. Drum & Co. Estimated Original Cost	Minnesota Railroad and Warehouse Commission's Decision, Dated July 13, 1922	Decision of U. S. District Court, Dated Dec. 29, 1924
Inventoried property excluding land and materials and supplies	$3,487,020	$3,487,020	$3,487,020
Expenditures not apparent in inventory	6,385	......	6,385
General overheads	759,642	488,183	369,534
Land	150,735	140,000	128,474
Materials and supplies	105,787	105,000	105,000
Cash working capital	87,312	30,000	30,000
Total cost new	$4,596,881	$4,250,203	$4,126,413
Appreciation of pre-war property to give effect to present-day prices	.....	514,797	1,132,075
Per cent appreciated	.....	16.04	40.00
Total cost new, after giving effect to present-day prices	$4,596,881	$4,765,000	$5,258,488
Condition of depreciable property, per cent	86.02	83.00	83.00
Amount of depreciation deducted	510,548	763,300	786,331
Total cost new less depreciation, after giving effect to present-day prices	$4,086,333	$4,001,700	$4,472,157
Cost of financing	229,844	....	89,075
Total physical property	$4,316,177	$4,001,700	$4,561,232
Going value	800,000	500,000	350,000
Value of power contract	379,542	91,300	91,300
Additions July 1, 1921, to Dec. 31, 1921	6,978	6,978	6,978
Grand total	$5,502,697	$4,599,978	$5,009,510

the interested parties and the case was heard by Judge Booth.

The decision rendered by Judge Booth released the company from impounding funds to cover the 5-cent ticket rate and establishes several important points in the valuation of electric railway properties. For instance, the court held:

1. That when the Railroad and Warehouse Commission made and filed its findings the legislative stage of the case was ended at that point and the judicial stage was reached and that the hearing before the state District Court on appeal provided for in the Minnesota statute is judicial and not a continuation of the legislative ratemaking process, and that under such circumstances the street railway company had the right to bring the present suit in the federal court.

2. That a test period of rates fixed by the commission is not an indispensable prerequisite and that the present suit in the United States court was not premature as contended by the state commission and the city of Duluth.

As to the fixing of rates by the United States court, the court said:

The proceedings before the special master and in this court are not for the purpose of fixing a rate, but to determine whether the rate fixed by the commission is confiscatory. In Pacific Gas & Electric Company vs. City and County of San Francisco, United States Supreme Court, June 2, 1924, the court said: "Rate making is no function of the courts. Their duty is to inquire concerning results and uphold the guarantees which inhibit the taking of private property for public use without just compensation, under any guise."

Nevertheless, it is held that the parties are entitled to the independent judgment of the court upon the findings and conclusions of the commission. Bluefield Co. vs. Pub. Ser. Com., 262 U. S., 679, 689.

The court added 40 per cent increase to the estimated pre-war cost of pre-war property to give effect to present day prices.

The court allowed a per cent condition of 83, the same as found by the commission, as compared with the per cent condition of 86.02 found by A. L. Drum & Company, consulting engineers for the company, from the inspection of property.

The court allowed the estimated original cost of general overheads without depreciation.

The court allowed $91,300, the value found by the commission, for the hydro-electric contract for power. In discussing the power contract the court stated:

This contract has proved very advantageous and the steam plant has been superseded and has been dismantled. A larger amount would have been justified (referring to the $91,300 allowed by the commission). . . . The master allowed nothing for this item, saying in his report:

"While this contract might be taken into consideration upon a sale of the property or a valuation for that purpose, it should not be considered in ascertaining the proper basis for rates as it belongs to the class of provident economical contracts which it is the duty of the company to make whenever possible so as to furnish economical service to the public."

I am not able to agree with the master in this view. The contract was a thing of value, and it differed from an ordinary contract for current supplies. It took the place of a physical plant which would otherwise have been necessary and would have been valued as a part of the physical items.

Under these circumstances I think the commission was justified in including this power contract as an item in the rate base.

The court allowed $350,000 for going value figured on 10 per cent on the original cost of the inventoried physical property, excluding land and materials.

The commission excluded cost of financing, but the court allowed $89,075 for cost of financing, stating:

In my opinion this is an item which should only be included provided the evidence shows that it had an actual as distinguished from a theoretical existence.

The court allowed the 7½ per cent rate of return as found by the commission.

The court allowed an item of hidden costs claimed by the company for expenditures incurred in the past on account of contributions imposed by city ordinances for civic improvements.

The court and commission adopted as plant base the estimated original cost of the inventoried property, excluding land and material and supplies, as agreed upon between A. L. Drum & Company, consulting engineers, representing the Duluth Street Railway, and B. T. Gifford, consulting engineer, representing the city of Duluth.

The tabulation published herewith gives a comparison of the values of the property as found by the United States court with the values found by the Minnesota commission and with the estimated original cost valuation found by A. L. Drum & Company.

The Master in Chancery found the value of the property under the several different bases to be as follows:

Value for rate-making purposes..	$4,599,978
Cost of reproduction, less depreciation, including going value..	5,138,504
Estimated original cost	4,222,573

Separate Investment Company in New Jersey

Articles of incorporation for the Public Service Stock & Bond Company, Newark, N. J., organized to do a general business in investment securities, but to specialize in securities of the Public Service Corporation of New Jersey and its subsidiaries and underlying companies, were filed on Jan. 16 with the Secretary of State at Trenton.

The incorporators are Thomas N. McCarter, president of the Public Service Corporation of New Jersey; E. W. Wakelee and Percy S. Young, vice-presidents. The papers authorize 500,000 shares of no-par-value stock, which will be owned, except for qualifying directors' shares, by the Public Service Corporation. A million dollars will be paid into the treasury of the new company at the start of business on Feb. 1.

Mr. Young, in charge of finance of the Public Service Corporation, said:

The success of our various customer-ownership campaigns has given us a total of more than 70,000 stockholders and subscribers to stock. Adding bondholders and those who own securities of underlying companies, there are more than 120,000 financially interested in various Public Service enterprises.

Mr. McCarter will be president and Charles G. Colyer vice-president, in charge of the company's activities. T. W. Van Middlesworth will be treasurer and Charles M. Broder secretary. The company will have offices in the Public Service Terminal Building, Newark.

Customer-Ownership Campaign at Reading

Customer ownership is the purpose of a campaign being conducted by the Reading Transit Company, Reading, Pa., for the sale locally of $1,250,000 of first and refunding mortgage gold bonds, series A, 6 per cent, dated Nov. 1, 1924, and due Nov. 1, 1954. The offering price is 98 and accrued interest to yield 6.15 per cent. In calling attention to the offering the company said that another opportunity is offered prudent investors to share in the earnings of one of their important public utilities, the first having been afforded in the sale of cumulative participating

Conspectus of Indexes for January, 1925

Compiled for Publication in this Paper by
Albert S. Richey
Electric Railway Engineer
Worcester, Mass.

	Latest	Month Ago	Year Ago	Since War High	Since War Low
Street Railway Fares* 1913 = 4.84	Jan. 1925 7 17	Dec. 1924 7.17	Jan. 1924 6.91	May 1921 7.24	May 1922 6.88
Street Railway Materials* 1913 = 100	Jan. 1925 150.3	Dec. 1924 148.7	Jan. 1924 158.5	Sept. 1920 247.5	Oct. 1924 148.5
Street Railway Wages* 1913 = 100	Jan. 1925 221.0	Dec. 1924 220.8	Jan. 1924 217.4	Sept. 1920 232	Mar. 1923 206.8
Steel—Unfilled Orders (Million Tons) 1913 = 5.91	Dec. 30 1924 4.82	Nov. 30 1924 4.03	Dec. 31 1923 4.45	July 31 1920 11.12	July 31 1924 3.19
U.S. Bank Clearings Outside N. Y. City (Billions)	Dec. 1924 18.23	Nov. 1924 16.66	Dec. 1923 17.30	Mar. 1920 18.54	Feb. 1922 10.65
Business Failures	Dec. 1924	Nov. 1924	Dec. 1923	Jan. 1924	Sept. 1924
Number	18,07	1,471	1,858	2,231	1,277
Liabilities (Millions	51.60	29.51	80.30	122.95	27.71

	Latest	Month Ago	Year Ago	Since War High	Since War Low
Eng. News-Record Construction costs 1913 = 100	Jan. 1925 210.4	Dec. 1924 208.6	Jan. 1924 217.9	June 1920 273.8	Mar. 1922 162.0
U.S. Bur. Lab. Stat. Wholesale Commodities 1913 = 100	Dec. 1924 157.0	Nov. 1924 152.7	Dec. 1923 151.0	May 1920 247	Jan. 1922 138
Bradstreet's Wholesale Commodities 1913 = 9.21	Jan. 1 1925 13.93	Dec. 1 1924 13.53	Jan. 1 1924 13.27	Feb. 1 1920 20.87	June 1 1921 10.62
Dun's Wholesale Commodities 1913 = 120.9	Jan. 1 1925 202.6	Dec 1 1924 198.0	Jan. 1 1924 189.9	May 1 1920 261.3	July 1 1921 159.8
U.S. Bur. Lab. Stat. Retail food 1913 = 100	Dec. 1924 152	Nov. 1924 150	Dec. 1923 150	June 1920 219	Mar. 1922 139
Nat. Ind. Conf. Bd. Cost of living 1914 = 100	Dec. 1924 166.1	Nov. 1924 165.2	Dec. 1923 165 0	July 1920 204.5	Aug. 1922 154.5

*The three index numbers marked with an asterisk are computed by Mr. Richey, as follows: Fares index is average street railway fare in all United States cities with a population of 50,000 or over except New York City, and weighted according to population.

Street Railway Materials index is relative average price of materials (including fuel) used in street railway operation and maintenance, weighted according to average use of such materials.

Wages index is relative average maximum hourly wage of motormen, conductors and operators on 100 of the largest street and interurban railways in the United States, weighted according to the number of such men employed.

CATALOG OF DSR MATERIALS
AT ST. LOUIS COUNTY HISTORICAL SOCIETY

Wayne C. Olsen
140 West Kent Road
Duluth, Mn. 55812

Historical Materials of the Duluth Street Railway and Related Companies donated to the St. Louis County Historical Society on December 18, 1991

Stock Certificates -
  Duluth Street Railway - 1881 issue (2)
  Duluth Street Railway (preferred) - 1925 issue (with cover) (80)
  Duluth Street Railway (preferred) - 1930 issue (2)
  Duluth-Superior Traction Co. (common) 100 shares - 1900 issue (2)
  Duluth-Superior Traction Co. (preferred) 100 shares - 1900 issue (2)
  Duluth-Superior Traction Co. (common) 25 shares - 1900 issue (2)
  Duluth-Superior Traction Co. (common) fractional - 1900 issue (2)
  Lakeside Railway Co. - 1892 issue (with cover) (20)

Annual Reports
  Duluth-Superior Traction Co. - 1909 to 1929 (21)
  Duluth-Superior Transit Co. - 1934 to 1966 (32)

Large multi-colored fold-out route maps - 1911 and 1917 (2)
Large multi-colored fold-out brochure with photos, text & map- 1909, 1911 (3)
Small multi-colored fold-out brochure listing trips & map- 1926,1927 & 1937 (3)
Small multi-colored fold-out brochure listing trips & map - W.W.II, 1946, 1950,
  1952, 1953, 1954, 1957 and 1958 (8)
Multi-colored stock purchase invitation with map (folded) - 1925
Time-table booklets (pocket-size) - 1909 to 1920 (18)
"Riders Digests" - small news-folder for passengers - 1939 to 1959
  Vol.I#1 to Vol.XXI #3 (complete set) (323)
"Transit Topics" - Employees News folder 1934 and 1935 (7)
Employees Operating Rule Books - 1883, 1892, 1899
  1920, 1938 (Incline), 1937 and 1943. (7)
8½" x 11" track maps of routes 1907 to 1930 (6)
8½" x 11" track maps of Superior Div. routes - 1922 (1)
8½" x 11" film negatives of track maps of routes (2)
Street and Avenue Guides (for Car OPerators) 1911 to 1954 (14)
Transfer Guides (for Conductors) 1916to 1923 (3)
Album of Engineering Dept. block maps - linen tracings of track, ties
  trolley poles and wire, also street surfaces - 1890's to 1930's (541)
Photographs -
  8" x 10" size - 1900 to 1939 (identified) (413)
  8" x 10" size - 1940 and later (identified) + bus operations (59)
  5" x 7" size - 1880's to 1939 (identified) (187)
  5" x 7" size - 1940 and later (identified) + bus operations (31)
  Post-card and jumbo size - 1890's to 1960's (identified) + bus oper.(436)
  Post-card size (plus negatives)in separated packs (identified)
    1920's to 1941 (358)
2 Maps of Downtown Hillside and Hilltop showing Incline route (1895 & 1900)

Historical Materials of the Duluth Street Railway (cont'd)

Linen tracings from Engineering Dept.-
(18) Large size (varies) - Buildings, equipment elevations, Route maps
(5) Small size (varies) - Buildings, equipment elevations, route maps
(10) Large size (varies) - Track, switches, wire, poles (i.e. construction details)
(13) Small size (varies) - Track, switches, wire, poles (i.e. const. details)
Street-car and bus equipment diagram books (about 5" x 7" size)

This material is in addition to files of company records as shown on the accompanying list. The total collection relates to predecessor companies of the present Duluth Transit Authority which was formed in 1971. I have assembled and held all of this material for some 25 years and believe it represents a significant picture of early Duluth transportation history. I am also pleased to turn the collection over to the Society at this time.

Sincerely,
Wayne C. Olsen
Wayne C.Olsen

P.S. In addition are blueprints from Engineering Department as follows:
(18) Large size - Buildings, equip. elev., route maps
(8) Small size - Buildings, equip. elev., route maps
(3) Large size - Track, switches, (i.e. constr. details)
(9) Small size - Track, switches, (i.e. constr. details)

Historical files of Duluth Street Railway Co.
(compiled by subject matter)

(Corporate and Administrative)
By-laws of Duluth-Superior Traction Co. 1914 thru 1927
Reorganization plan of Duluth Street Ry. CO. 5-31-1932
Ordinances and grants - Superior Rapid Transit CO. 1899
A. L. Drum valuation study (1925)
Property Valuation of Superior Rapid Transit Co. 8-13-1900
Articles and By-laws of Duluth Street Ry. Co.
Duluth-Superior Bridge contract - 1915
Certificate of Incorporation of Duluth Superior Transit Co.
Agreement of D. S. Ry. to Duluth & Northern Traction Co. 1915
(never put into effect)
Mortgage and Deed of Trust of D. S. Ry. 5-21-1910
Capital reorganization (correspondence and papers) 1929
Report on operations of Dul.Sup Transit Co. and Dul. Sup. Bus Co. 1938
~~Property Valuation Report of Dul.St. Ry.Co. (Dul.Div) 1/1/1926 by A. L. Drum Co~~.
* ~~(4 Volumes-shows original cost & Comm. fair value, separated into ICC~~
~~classification of accounts~~)
Property Valuation Report of Dul.St.Ry. Co. (Supr. Div.) 1/1/1927 by A. L. Drum Co.
(2 Volumes - same as above description)
Plan for changes in reorganization of local and interestate bus operation
of Dul. **Sreet** Ry.Co. 9-14-1932
U.S.Census Office - 1902 Report of Duluth-Superior Traction Co.
Departmental organization charts (many and varied)
Historical papers of Motor Line Improvement Co. 1890's
Historical papers of Lakeside Railway Co. 1890's
Property valuation and Analysis of OPerating Costs of Dul.St. Ry.(Dul.Div)
as of 12/1/1925 by H. E. McWethy
Property Valuation as of 1/1/1930 (same as above)
Historical data (general) of Duluth Street Ry. Co. (large file)
General Manager's letter copy-book - 1897
Historical file of Douglas County St.Ry. and Sup. Rapid Transit (1890's to 1920's)
Park Point Traction Co. accounts journal book - 1913
Reorganization plans of 1938-39
* ~~Articles of incorp., by-laws, legislative acts, ordinances and resolutions~~
~~of D.S.Traction, D.St.Ry., Douglas Cty. Ry. & Sup.R.T. (Bound volume - 1907~~)
Corporate minute book of Dul.St. Ry. - 1881 to 1896

(General and operating)
Car House Rules
Company Mail
U. S. Mail, handling of
Emergency Truck and Autos, use of
Proposed route extensions
Proposed extension of East 8th Street line to Nortondale Ave.
Special Orders (Carmen)
Accident Claims
Advertising and Publicity agreements
Service cars, Mech. Dept., shops, yard, office, etc.
Schedules
Street-car service, operating, accidents, etc.
Running Time, routing
Snow, sleet, ice and rain
Snow Plowing and snow removal

Schedule Dept.ads proof book 1919-1923
Rolling stock lists and rosters
Tokens, Tickets and Fare information
Turnstiles
Signals and Block Signals
Car Assignments and (final) disposition
Ligntweight Noiseless Car information
Fare registers
Gongs
Whistles
Birney Cars
Car Heating, Coal, Coke, etc.
Oper.Dept.news ads proof book 1928-29
One-man car operator exams
Bad-order car change records
Accident summarys (by year)
Power usage & economies
Power Tests
Pres. COolidge Parade (1928)
Winter Frolics (1926-27-28)
Track Info.and switches
Track Laying/Roadway dept.
Shops, Buildings,Yard track plans
Car bodies- plans & diagram sheets
Employment applications (early)
Union agreements (several)
Road & Equipment expenditures 1920's
Constitution & Bylaws of D.S.T. Veterans Club - 1934
Paving Projects - 1933
Correspondence, memos and reports on operations for these routes:
  Incline & Highland
  Park Point
  Superior lines
  Dul-Sup Bridge- Interstate
  E. 4th St.-Woodland
  Lester Park & Crosley
  W. Dul. & Oneota to A.Bridge
  Kenwood-E.9th St.-E.8th St.
  Morgan Park & New Duluth
  Piedmont Ave.
  West 4th St. Shuttle
  Allouez
Woodland line; request for double trk. extension & car service (1920's)
Extension of surface line to Duluth Heights (1922-1928)
Study of Mech Dept. Maintenance methods - 1935
* ~~Street & Avenue Guides and Transfer & Fare Guides for conductors and car operators (1911 to 1950's)~~
Street-car extensions- general 1915-1917

Hose Bridges
Seniority and Badge lists
Merits and Demerits
Badges
Employees & Personnel
Employee Classification Lists
Transfer Policies and Info.
Destination and Route Signs
Remodeling plans for one-man cars
One-car man operations
P.A.Y.E. turnstile plans
Car mileage records
Pull-in records
Switching Short
Delays from starters sheets
Trolley Wire breaks
Stopping tests (G. E. & Simplex)
Street- car Fenders
Single-track operations
Schedule & Time-table information
D.S.Ry. track maps, diagrams, etc.
System maps/ passenger guides
Fare increase & effect on revenues
Stores Dept. stock inventory 12-1-1929
Passenger counts & surveys
Passenger revenue & expense data
Traffic survey - 1931
Annual reports of Empl.Athletic & Protective Assn.(several in 1920's)
Letterheads, forms, statements
Operating dept. meetings (1920's)
Const.Job Authorization records (1920's-30's)
Power agreements, consumption, economies,etc.
Chartered car requests, corresp. (1920's)
Allouez line operations (1907 & later)
City's plans for extensions & terminals(1920'
Snow removal/City corresp. (1896-1929)
Aerial Br.(Morse St.) loop 1928-29
3rd Ave. East Wye; removal of (1925-29)
Elliott's Meat spur(joint with N.P.Ry.) correspondence 1903-1928
R.R.Commission-Superior rate case 1923
Diaries of Incline Ry. Engr. 1929-1939
Construction & Reconst.charges for D.S.RY. Duluth Div. 1922-28
Fon Du Lac; service requests (1925 & on)
Fare studies, special fares and rate increases (1920's)
Proposed bus routes (1920's)
Electric Ry. equipment suppliers - flyers, brochures, catalogs, etc.
Ohio Brass Co. - brochures, corresp. flyers

Dul. St. Ry. - Bus operations (1920's)
D.S.Ry./Dul.Sup Transit bus operations(1930's)
Consolidation with other bus companies
Partial conversion to trolley bus
with charts, specs. etc.
Dul.Sup. Transit - bus operations (1940's)
Laws & Ordinances re: bus operations
Catalogs, photos specs. suppliers & mfrs.
Bus rosters & equipment data (all-time)
Trolley bus extension thru downtown to
Piedmont (1934-36)
U.S.District COurt Report of plan for
unification of 3 transit systems
for Chicago - 1938
Bus mileage records 1935-43
Gen Specs. for trolley buses
1931 and 1934
Twin Coach & Yellow Coach purchase
file- Oct. 1931
Trolley bus info & statistics (general)
Gopher-Badger Bus Co.-jitney bus problems
agreements, etc, 1927-31
Northland Greyhound - agreements and
corresp.re:operations(1920's & 30's)
Comparison of plans for substitution of busses
for remaining rail lines (exc. Incline)-1938
The Street Railway Situation in Duluth (booklet) - Jan. 1927
Street Ry. Situation in DUluth (booklet) Jan. 1920
Instruction to Employees re: stock purchase plan - March 1925
Instructions to Surgeons re: Employment Applicants - 1917
Analysis of OPerating Costs (Duluth, Cleveland, Cincinnati)- May 1920

(*) previously donated

Northeast Minnesota Historical Center, University of Minnesota, Duluth

S3020 DULUTH-SUPERIOR TRANSIT COMPANY,
Duluth, Minnesota.

History

The Duluth Street Railway was incorporated on October 25, 1881. The following month the Minnesota State Legislature granted the company a fifty year charter on the condition that it have one mile of road operating in Duluth within one year. Construction of a line on Superior Street between 8th Avenue West and 3rd Avenue East was begun in 1882 and completed in 1883. Passengers rode in horsecars that were pulled along the track by mules. The original line was extended during the 1880's. By the end of the decade, the company was operating fifteen horsecars and 178 mules on about 4.5 miles of track. In 1890, the system was converted to electricity. Financial difficulties forced the company into receivership for a short time during August, 1891.

Between 1891 and 1897, the system expanded. Additional lines were built, including the Incline Railway that ran .56 mile up the hill from Superior Street on 7th Avenue West. Operation was assumed of three real estate promotion company electric railway lines, and on them, the Highland Improvement Company, was acquired. The cost of electrification and expansion, plus the effects of the Depression of 1893, caused the company to default on the interest payments of its first and second mortgage bonds and to enter into receivership in July, 1898.

The Douglas County Street Railway Company was incorporated on April 24, 1884, after the town board of Superior, Wisconsin, authorized it to construct and operate a street railway in Superior. Construction of the horsecar line did not begin until 1887, and it operated only irregularly form 1887 to 1888. Work on the line was renewed in 1889, and by 1890, the company owned four horsecars and eight horses. Electrification of the system was accomplished in 1890. The Superior Rapid Transit Company acquired the rights and properties of the Douglas County Street Railway Company in August, 1892. Additional track was constructed during 1892 and 1893, financed by mortgage bonds that were issued in 1894. However, the company defaulted on the interest payments and was placed in receivership in January, 1896.

Interest in combining the street railway systems of Duluth and Superior under one management led to the formation of several corporations and to a number of complicated legal maneuvers during the latter half of the 1890's. A major figure behind these activities was Thomas Lowry of Minneapolis, president and principal stockholder of the company that operated the street railways of Minneapolis and St.Paul, the Twin City Rapid Transit Company. The financial weakness of the Duluth and Superior companies, however, prevented consolidation from occurring for several years.

The Duluth-Superior Traction Company (of New Jersey) was incorporated and gained a controlling interest in the Duluth Street Railway Company in 1894. The Duluth Street Railway continued as the operating company, with the Duluth-Superior Traction Company functioning as a holding company. In

1897, all of the assets of the Duluth-Superior Traction Company (of New Jersey) were assigned to the Duluth-Superior Traction Company (of Connecticut), which was incorporated by a group of men apparently organized by Thomas Lowry.

The Duluth-Superior Bridge Company was incorporated prior to 1895 for the purpose of constructing a bridge between Duluth and Superior. Construction was authorized by the state legislatures of Minnesota and Wisconsin, effective January, 1896. The bridge was completed in 1897. The Duluth-Superior Traction Company (of New Jersey), which had agreed to build the bridge, executed an agreement that provided for use of the bridge by the streetcars of Duluth and Superior. In 1900, the Duluth Street Railway Company leased the bridge from the Duluth-Superior Bridge Company.

The goal of combining the street railways of Duluth and Superior was achieved in 1900. The Duluth Street Railway Company -- still owned by the Duluth-Superior Traction Company (of Connecticut) -- was released from receivership, and the Superior Rapid Transit Company was acquired by the Connecticut firm. The two companies were consolidated, with the Duluth Street Railway Company as the surviving corporation. The consolidated company acquired the two remaining real estate promotion electric railways, the Lakeside Railway Company in 1900, and the Woodland Company in 1901, and the Park Point Traction Company in 1917. Fire destroyed the Incline Railway in 1901; although reconstruction began immediately, the lien was not completely rebuilt until 1911. In 191, the peak year of operation, the company transported 38,474,440 passengers, operated 5,538,842 car miles, and employed 670 people.

During the 1920's, rising operating costs and competition from automobiles resulted in declining revenues. Economy measures instituted by the company included one-person car operation, which began in Superior in 1924 and in Duluth in 1928, and the operation of motor buses, which began in 1924. The Depression of 1929 added to the company's financial problems. It defaulted on a mortgage debt and went into receivership in May, 1930.

In September 1933, all of the properties of the Duluth Street Railway Company were transferred to the Duluth-Superior Transit Company, which was incorporated in January, 1933. The Duluth-Superior Traction Company (of Connecticut) continued to own a small amount of stock in the reorganized company until 1945, when the traction company was liquidated and its shares distributed. During the 1930's, all of the streetcars in the system were replaced by buses; the streetcars stopped operating in Superior in 1935, and the last rail line in Duluth was abandoned in 1939. The Incline Railway was also dismantled in 1939. The entire transit system was reorganized as the Duluth Transit Authority in 1970.

Scope and Content

The collection contains minutes, financial books, annual reports, publications, maps, miscellaneous correspondence, newsclippings, photographs, timetables, and microfilmed scrapbooks. Financial records represent the largest portion of records, and there is a significant lack of executive records. Most of the financial books are in fair to good condition. The collection is divided into eight groups largely representin the different transit companies that eventually became the Duluth Superior Transit Company. The groups are: Interstate Traction Company, Lakeside Railway Company, Park Point Traction Company, Duluth Street Railway Company, Duluth-Superior Traction Company, Duluth Superior Transit Company, Miscellaneous Records, and Microfilmed Scrapbooks.

There are relatively few records of the INTERSTATE TRACTION COMPANY (1902-1914), the PARK POINT TRACTION COMPANY (1916-1917) and the LAKESIDE RAILWAY COMPANY (1892-1900). Only the Lakeside Railway Company records include executive minutes. The other two groups contain miscellaneous financial volumes.

Though there are more records of the DULUTH STREET RAILWAY (1882-1930) than any other group, most of the material is in the form of financial books. There are some annual reports, and minutes do exist (1896-1911).

Most of the DULUTH-SUPERIOR TRACTION COMPANY records (1894-1929) pertain to the Connecticut firm, though some of the minutes originate form the New Jersey company.

The DULUTH-SUPERIOR TRANSIT COMPANY records (1934-1966) contain annual reports, and special reports and two publications, Transit Topics and the Rider's Digest. Transit Topics was an in-house publication for employees and the Digest was a leaflet distributed to transit users. The Digest contains articles promoting mass transit, notifications of fare and route changes, and related information.

MISCELLANEOUS RECORDS (1887-1963) contains maps, a few items of correspondence (some concerned with transit service for Park Point), newsclippings, timetables, and photographs of streetcars, buses and the Incline Railway.

The SCRAPBOOKS (1893-1941) contain two "hard copies" and a microfilm series. The two "hard copy" scrapbooks (1889-1896) contain advertisements and articles on the Pavilion (at the top of the Incline Railway), a company strike and other articles relating to the transit company. The microfilm series reproduces 105 volumes of newspaper clippings, each of which contains approximately 170 pages. The first volume (entitled "Amusement Book," 1907-1914) was kept as a "record of attractions that [affect streetcar traffic]." It includes newspaper advertisements to a number of sports, theatrical, and civic events. The second scrapbook (volume 1, 1914-1923) contains general news clippings on engineering projects in the Duluth area and other local civic news; it begins with an index to the clippings. The remaining scrapbooks (volumes 2-106, 1896-1941) contain articles concerning the Duluth-Superior Transit Company, including news items on streetcar accidents, strikes, service changes, fare increases, and other local transit incidents. Some non-local transit issues and events are also covered. Most clippings are identified by newspaper and date. There are no volumes 56-57. Since there is no break in the date sequence, it is possible that the volumes were misnumbered by the company rather than lost.

S3020 Duluth-Superior Transit Company. Records.

Box List

Box	Folder	
		INTERSTATE TRACTION COMPANY
*	Vol 1	Cashbook, Jan 1910 - Jul 1913.
4	Vol 1	Earnings Record, 1902 - 1914.
	Vol 2	Operating Expenses, Apr 1905 - May 1909.
		LAKESIDE RAILWAY COMPANY
1	1	Minutes, Jun 1892- Aug 1900.
	2	Stock Certificate, 1892.
		PARK POINT TRACTION COMPANY
4	Vol 3	Cashbook, Feb 1916 - Nov 1917.
		DULUTH STREET RAILWAY COMPANY
1	3-5	Minutes, Jun 1896 - Dec 1911.
		Financial Records,
	6	Account Ledger, 1882-1886.
*	Vol 2	Account Ledger, Jul 1889 - Dec 1892.
4	Vol 4-5	Balance Book, Jan 1892 - Apr 1899.
1	7-8	Cashbooks, Nov 1888 - Apr 1893.
*	Vol 3	Daily Cash and Ticket Fares, Jan 1892 - Dec 1896.
1	9	Earnings Record, 1891 - 1892.
*	Vol 4	Earnings Record, Jan 1893 - Mar 1897.
	Vol 5	Earnings Record, Apr 1897 - Aug 1900.
	Vol 6	Expense Journal, July 1889 - Jan 1893.
	Vol 7	Expense Journal, Feb 1893 - Jun 1896.
1	10	Lumber Cashbook, Sept 1882 - May 1885.
*	Vol 8	Monthly Operating Expense and Earnings Statement, July 1889 - July 1898.
4	Vol 6	Operating Statements By Line, 1891 - 1892.
1	11-12	Paymasters Account, Sept 1892 - Sept 1899.
4	Vol 7-8	Payroll, July 1915 - Aug 1930.
1	13	Receipts and Payments Journal, Aug 1882 - Apr 1887.
1	14-15	Record of Bank Account, Apr 1891 - Apr 1893.
	16	Record of Contracts, 1890 - 1904.
4	Vol 9	Statement Book, July 1894 - May 1897.
1	16	Stock Certificates, n.d.

Box	Folder	
1	17	Stock Subscription Books, 1882.
*	Vol 9	Voucher Journal, July 1889 - July 1891.
	Vol 10	Voucher Journal, Aug 1891 - Aug 1892.
	Vol 11	Voucher Journal, Sept 1892 - Jun 1899.

DULUTH-SUPERIOR TRACTION COMPANY

2	1	Annual Reports, 1923 - 1929.
	2-4	Minutes, July 1894 - Dec 1911.
	5	Stock Certificates, n.d.

DULUTH-SUPERIOR TRANSIT COMPANY

2	6-7	Annual Reports, 1934 - 1966.
	8	Electrolosis Report, 1937.
	9	Fare Hearings, Exhibits, 1951 - 1954.
3	1-2	Rider's Digest, Mar 1939 - Feb 1959. Removed, see Serials File for location.
	3	Transit Topics, Jun 15, 1934. Removed, see Serials File for location.

FILE AT BACK OF BOX 3 "summary information" includes fares, tokens, miles of line, rolling stock, buses, and so forth…

MISCELLANEOUS RECORDS

	4	Blueprints, Maps, 1904 - 1957.

CORRESPONDENCE

	5	General, 1893 - 1917.
	6	Park Point, 1887 - 1931.
	7-8	Newsclippings, 1912 - 1960.
		Photographs, (see also boxes 155 photos only, 156 "O" photos)
	9	General, n.d. (appear to have been removed to S3020 from gen. coll. S2386)
	10	Buses, 1925 - 1963.
	11	Incline Railway (appear to have been removed to S3020 from gen. coll. S2386)
	12	Timetables, 1891 - 1956.

SCRAPBOOKS

Box	Reel	Volume	
4	-	10	March 30, 1889 - September 4, 1893.
	-	11	June 23, 1893 - October 27, 1896.
5	1	Amusement	Book - February 14, 1907 - September 22, 1914.
		1	April 24, 1914 - December 22, 1923.
		2	October 28, 1896 - November 18, 1898.
		3	November 18, 1898 - June 2, 1899.

Box	Reel	Volume	
	4		June 2, 1899 - January 30, 1900.
		5	February 2, 1900 - September 26, 1900.
	2	6	September 26, 1900 - June 12, 1901.
		7	June 12, 1901 - December 20, 1901.
		8	December 20, 1901 - September 3, 1902.
		9	September 3, 1902 - March 11, 1903.
		10	March 11, 1903 - September 14, 1903.
		11	September 8, 1903 - March 9, 1904.
		12	March 9, 1904 - August 5, 1904.
	3	13	August 6, 1904 - February 7, 1905.
		14	February 6, 1905 - July 13, 1905.
		15	July 13, 1905 - March 22, 1906.
		16	March 23, 1906 - October 6, 1906.
		17	October 6, 1906 - April 12, 1907.
		18	April 12, 1907 - August 18, 1907.
		19	August 19, 1907 - February 4, 1908.
	4	20	February 4, 1908 - August 30, 1908.
		21	August 31, 1908 - February 24, 1909.
		22	February 24, 1909 - August 31, 1909.
		23	August 31, 1909 - March 2, 1910.
		24	March 1, 1910 - August 18, 1910.
		25	August 18, 1910 - February 11, 1911.
		26	February 13, 1911 - June 21, 1911.
	5	27	June 22, 1911 - October 9, 1911.
		28	October 9, 1911 - February 20, 1912.
		29	February 19, 1912 - June 29, 1912.
		30	July 1, 1912 - September 13, 1912.
		31	September 13, 1912 - September 28, 1912.
		32	September 27, 1912 - October 16, 1912.
		33	October 17, 1912 - January 27, 1913.
	6	34	January 27, 1913 - April 25, 1913.
		35	April 26, 1913 - August 4, 1913.
		36	August 4, 1913 - November 7, 1913.
		37	November 7, 1913 - March 7, 1914.
Box	Reel	Volume	
6	6	38	March 7, 1914 - July 24, 1914.
		39	July 25, 1914 - December 12, 1914.
		40	December 12, 1914 - January 29, 1915.
	7	41	January 29, 1915 - May 1, 1915.
		42	May 1, 1915 - July 8, 1915.

		43	July 9, 1915 - October 18, 1915.
		44	October 18, 1915 - February 20, 1916.
		45	February 17, 1916 - May 27, 1916.
		46	May 29, 1916 - October 4, 1916.
		47	October 5, 1916 - May 2, 1917.
	8	48	May 2, 1917 - October 4, 1917.
		49	October 4, 1917 - December 10, 1917.
		50	December 10, 1917 - February 5, 1918.
		51	February 6, 1918 - May 5, 1918.
		52	May 4, 1918 - October 5, 1918.
		53	October 3, 1918 - March 9, 1919.
		54	March 14, 1919 - June 23, 1919.
	9	55	June 19, 1919 - November 29, 1919.
		58	November 29, 1919 - February 18, 1920.
		59	February 19, 1920 - June 10, 1920.
		60	June 10, 1920 - July 17, 1920.
		61	July 17, 1920 - August 24, 1920.
		62	August 23, 1920 - December 5, 1920.
		63	December 6, 1920 - February 26, 1921.
		64	March 11, 1921 - June 14, 1921.
	10	65	June 14, 1921 - September 14, 1921.
		66	September 14, 1921 - January 18, 1922.
		67	January 18, 1922 - March 29, 1922.
		68	March 29, 1922 - June 22, 1922.
		69	June 21, 1922 - September 19, 1922.
		70	September 19, 1922 - December 8, 1922.
		71	December 8, 1922 - February 8, 1923.
		72	February 3, 1923 - April 28, 1923.
	11	73	April 26, 1923 - August 9, 1923.
		74	August 3, 1923 - November 15, 1923.
		75	November 16, 1923 - March 30, 1924.
		76	March 28, 1924 - July 24, 1924.
		77	July 18, 1924 - November 3, 1924.
		78	October 31, 1924 - February 18, 1925.
		79	February 19, 1925 - September 27, 1925.

Box	Reel	Volume	
6	11	80	September 25, 1925 - February 18, 1926.
	12	81	February 19, 1926 - June 13, 1926.
		82	June 13, 1926 - January 7, 1927.
		83	January 8, 1927 - February 9, 1927.
		84	February 22, 1927 - June 8, 1927.
		85	June 8, 1927 - October 18, 1927.

	86	October 19, 1927 - February 7, 1928.
	87	February 7, 1928 - July 14, 1928.
13	88	July 17, 1928 - December 9, 1928.
	89	November 22, 1928 - February 28, 1929.
	90	February 1, 1929 - June 25, 1929.
	91	June 25, 1929 - October 29, 1929.
	92	October 29, 1929 - March 13, 1930.
	93	March 13, 1930 - August 9, 1930.
	94	August 8, 1930 - March 13, 1931.
14	95	March 13, 1931 - July 27, 1931.
	96	July 28, 1931 - April 11, 1932.
	97	April 7, 1932 - March 16, 1933.
	98	March 16, 1933 - March 2, 1934.
	99	March 2, 1934 - December 6, 1934.
	100	December 6, 1934 - June 30, 1935.
	101	June 30, 1935 - August 18, 1936.
15	102	August 19, 1936 - April 29, 1937.
	103	April 30, 1937 - May 24, 1938.
	104	May 26, 1938 - April 17, 1939.
	105	April 15, 1939 - April 26, 1940.
	106	April 26, 1940 - August 19, 1941.

General Files

Boxes 134-135	ca. 1923-1927
Box 136	ca. 1929-1932
Boxes 7-16	1928-1932
Boxes 17-28	1933-1937
Boxes 29-41	1938-1942
Boxes 42-55	1943-1947
Boxes 56-67	1948-1952
Boxes 68-77	1953-1957
Boxes 78-90	1958-1962
Boxes 91-97	1963-1968

Operating Department Files

Box 98	1921-1928
Box 99	1928
Box 100	1928-1929
Box 101	1929

Operating Department Files (cont.)

Box 102	1930
Box 103	1930-1931
Box 104	1939
Box 105	1939-1940
Box 106	1940-1941
Box 107	1941-1942
Box 108	1942
Box 109	1943
Box 110	1944
Box 111	1945
Box 112	1946
Box 113	1946, 1955-1959
Box 114	1955-1959
Box 115	1960-1962

Wisconsin Railroad Commission

Box 117	1895-1928
Box 118	1914-1919
Box 116	1915-1926

Minnesota Railroad and Warehouse Commission

Box 122	1919-1928
Box 121	1921-1923
Box 120	1923-1927
Box 119	1926

Boxes 123-125: Transit Employees Benefit Association, ca. 1925-1955.
Box 129: Accounting, Detailed Comparative Statements, 1937-1939, and Annual Reports, 1939-1945.
Box 128: Transit Authority Annual Audit Statements, 1950-1963.
Boxes 126-127: Annual Income Statement and Miscellaneous Subject Files, 1956-1969.

Personnel Files, 28 loose applications for employment 1895-190 [cracker box labeled 1]
Personnel Files, 1895-1900, Employee Record of Service, ledger volume 8.5x14 A-Z indexed [labeled 2]
Personnel Files, 1892-1896 Employee Record of Service, ledger volume folio A-Z indexed [labeled 3]

Personnel Files, 1920's - 1930's

Box 130	N-S
Box 131	S-W
Box 132	W-Z

Box 133: Maps and Drawings

Box 137: Twin Ports Electric Lines, Employees Athletic and Protective Association, Minutes, 1919-1934.

Box 138: Personnel Volumes with some index pages: the volumes hold nationality, job, wage, date, and some include week to week assessment of work; ca. 1900's - 1930's, two ledgers employees C-F, L-Z.

Box 139: Personnel Volumes, ca. 1900's - 1930's, two volumes employees M-N, O-Q; Voucher Journal, 1908-1913, Ledger, 1890-1897.

Box 140: Safety Committee and Miscellaneous Files, ca. 1920-1930.

Boxes 141, 142	Volume	
		Journals
	1	July 1896-June 1899
	2	July 1899-August 1900
	3	1900-1904
	4	July 1906-December 1907, 1922
		Ledgers
	1	1893-1896
	2	1896-1899
	3	1901-1911
	4	1904-1908
	5	1908-1911
	6	1909-1914
	7	1918-1926
	8	1926 (other investments)

Box	Folder	
143		Report to Wisconsin Public Service Commission, 1969.
		Stock Transfer Journal, 1933-1942.
		Sample Stocks and Bonds, approximately 1945.
		Profit Sharing and Pension Plan, 1960-1969.

Box	Folder	
144		Treasurer's File, 1950-1966.
145		General Ledger, 1960-1970.

	Miscellaneous Annual and Quarterly Reports. Contracts (Duluth Street Railway Company), 1896-1917. Legal Papers, 1881-1920.
146	Auditor's Reports, 1895-1936. Itasca Bus Lines Applications, 1927-1931.
146	Record of Stock Certificates, 1936-1958. Tax Commissioner of Connecticut Reports, 1915-1933. Capital Stock Tax, 1917-1926. City Comptroller Reports, 1900-1949. Financial Reports, 1926-1955.
147	Treasurer's File, 1960-1970.
148	Treasurer's File (cont.), 1960-1970. DSTC Minutes, Articles of Incorporation, By-laws, 1932-1967.
149	DSTC Daily Reports, Correspondence and Bus Purchases, Real Estate Papers, Transit Investments Inc. Garage and Turnaround (all from Kodicor Files), 1967-1970.
150	Operating Department Files, ca. 1918-1928.
151	Operating Department Files, ca. 1924-1932.
152	Scrapbook containing correspondence from City of Duluth, Minnesota, and City of Superior, Wisconsin, 1905-1910.

Volumes

Articles of Incorporation, By-laws, Legislative Acts, Ordinances and Resolutions of the Duluth-Superior Traction Company, Duluth Street Railway Company, Douglas County Street Railway Company, Superior Rapid Transit Railway Company. Compiled August 1907. 502 p. with index.

Report on the Value of the Property of the Duluth Street Railway Company as of July 1, 1921, Volumes 1 & 2, Duluth Division. A.L. Drum & Company, Consulting and Constructing Engineers, Chicago.

Report on the Value of the Property of the Duluth Street Railway Company as of July 1, 1921, Volumes 1 & 2, Duluth Division. Gifford, Byron T., Consulting Engineer, Grand Rapids, Michigan, Madison, Wisconsin.

Report on the Value of the Property of the Duluth Street Railway Company as of October 1, 1922, Volume 2, Superior Division. A.L. Drum & Company, Consulting and Constructing Engineers, Chicago.

Report on the Value of Property as of December 31, 1925, and Analysis of Operating Costs of the Duluth Street Railway Company, Duluth Division. McWethy, H.E., Engineer, Statistician, St.Paul, Minnesota.
Volume 1 - Valuation
Volume 2 - Analysis of Operating Costs

Report on the Value of the Property of the Duluth Division of the Duluth Street Railway Company as of January 1, 1926, showing Original Cost and Commission Fair Value, Segregated into the Interstate Commerce Commission Classification of Accounts. Volumes 1-4. A.L. Drum & Company, Consulting and Constructing Engineers, Chicago.

Box	Folder	
154		Trolley Bus and Motor Bus Substitution: For all rail service except Incline Railway, Highland Avenue and Crosley Shuttle, Plan "C", 1/9/1936 by R.B. Thompson, assistant to general manager
		File of R.B. Thompson speeches: 1936, 1947, 1950.
155	1	Claim Department -- Photos of Accident Scenes and Equipment
	2	Accidents and Claims
	3	Special Orders -- to Street Car Crews see also: SO vol. 15-20, Jan. 1930-Dec. 1937 cs/8/B/5
	4	Examinations for One-Man Street Car Operators
	5	Instructors
	6	U.S. Mail (transporting on street cars)
	7	Money Receivers
	8	Transfer guides / Street and Avenue guides
	9	Chartered Cars
	10	Car-House Rules
	11	Speed Problems
	12	Correspondence re: Snow and Ice Removal from Tracks (1895-1929)
	13	Snow and Ice Removal from Tracks
	14	Snow-plowing Operations (1928-1931)
Box	Folder	
155	15	Street-car Service Assignments and Final Retirement Disposition
	16	Lightweight Street Car Correspondence
	17	Destination and Route Signs on Cars
	18	Street Car Fleet Rosters and Rolling Stock Lists and Specifications
	19	Fare Registers
	20	Car Heating -- Coal, Coke, etc.
	21	Whistles and Gongs

	22	Schedules and Running Times (1930's)
	23	Schedules (1920's-1930's)
	24	Schedules (1920's-1930's)
156	1	Street Car Defect and Trouble Reports -- Mechanical Department
	2	Street Car Mileage Reports -- Mechanical Department
	3	Wisconsin Engineering Department -- Street Car Modifications
	4	Rail and Track Maps and Diagrams -- Engineering Department
	5	Incline Structure -- Engineering Drawings (1916)
	6	Profile of Incline Railway (December, 1889)
	7	Incline Structure -- Engineering Drawings (1901)
	8	Shop Buildings and Car Storage Yard Plans and Drawings
	9	Street Car Airbrake Blueprints (1903)
	10	Street Car Wheel and Truck Blueprint (1901)
	11	Job Authorizations, Construction, Equipment Retirements
	12	General Track and Rail Data
	13	Single Track Operation
	14	Railroad Crossings
	15	Tracks
	16	Switches
	17	Switches, Loops, Turning Points
	18	Track Maps and Diagrams -- Superior
	19	Track and Track Laying Data
	20	Track Maps and Diagrams -- Duluth
157	1	Laws and Ordinances re: Bus Operations (1915-1939)
	2	Duluth Street Railway Company Bus Schedules, Services, and Running Times (1928-1929)
	3	Duluth-Superior Coach Company & Duluth Street Railway -- General Bus Matters (1920-1929)
	4	Duluth-Superior Coach Company, Duluth Street Railway, Duluth-Superior Transit Company -- General Bus Matters (1930-1939)
	5	Duluth-Superior Transit Company - General Bus Operations (1940's)
157	6	Duluth-Superior Transit Company - Electric Trolley Bus Operations (1940's)
	7	Duluth Street Railway, Duluth-Superior Transit Company -- Electric Trolley Bus Planning and Operations (1930's)
	8	Duluth-Superior Transit Company - Electric Trolley Bus Service Extensions (1934-1936)
	9	Bus Financing (1932)
	10	Bus Service - Arrowhead Bridge and Interstate Bridge Routes (1927)
	11	Buses - Miscellaneous Information (1925-1931)
	12	Bus Service - Boulevard Route (1928-1929)
	13	Bus Service - Calvary Road Route (1927)

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	14	Proposed Bus Service in Arnold (Woodland) - 1925
	15	Bus Service - General (1926)
	16	Bus Service - Morley Heights Route (1920's)
	17	Bus Mileage Reports (1920's-1943)
	18	Duluth-Superior Transit Company - Roster Lists of Buses and Equipment Data (1920's-1950's)
	19	Duluth Street Railway, Duluth-Superior Transit Company - Bus Purchases and Retirements (1931)
	20	Duluth Street Railway and Northland Transportation Company (1927-1936)
	21	Miscellaneous Bus News Stories and Photos
158	1	Duluth-Superior Traction Company, Duluth Street Railway Company -- Annual Reports (1909-1968)
	2	Superior, Wisconsin Historical Records
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	4	Valuations
	5	1929 Budget Data
	6	1902 Census Report (U.S.)
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	10	Safety Committee Meetings (1929-1932)
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	13	Meetings of Street Railway Committee of Chamber of Commerce
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	2	Transfer Information
	3	Transfer Connections - Complaints
	4	Fare Collection
	5	Token, Ticket, and Fare Information
	6	Token and Fare Historical Information
	7	Proposed Fare Increase Study (1929)
	8	Token Information - General
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	10	Duluth-Superior Bridge and Interstate Line
	11	Incline and Highland to Duluth Heights Line
	12	Lester Park and Crosley Lines
	13	Morgan Park and New Duluth Lines
	14	East 4th Street and Woodland Lines
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	17	West Duluth and Oneota Street to Aerial Bridge Line
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161	1	Turnstiles on Street Cars (Pay-as-you-enter fare collection)
	2	Front Exit Cars
	3	Remodeling to One-Man Cars I
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	5	Street Car Body Plans and Diagrams
	6	Report of Mechanical Department Maintenance Methods (1935)
	7	3rd Avenue East "Wye" -- Removal of (1925-1929)
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	9	Proposed Extension re: Duluth Heights (1912-1928)
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161	11	Fond du Lac Bus Service (1927-1933)
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162	1	Daily Passenger Revenue (1938-1939)
	2	Operating Department Surveys and Analyses (1920's-1930's)
	3	Daily Run Lists - Street Car Crews (1929-1936)

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	4	Time Tables and Schedules (System-wide and individual routes) (1902-1951)
	5	Time Tables and Schedules (System-wide) (1920-1956)
	6	Birney Cars
	7	Car Service - Miscellaneous
	8	Car Service, Operating, etc.
	9	Service Cars, Shop, Yards, Mechanical Department, Office, etc.
	10	Modernization Plans (Street cars to buses) (1938-1939)
	11	Cars (1929-1930)
	12	Power Information
	13	One-Man Cars - Carrying Newspapers, Dogs, Mail, etc.
	14	Emergency Truck and Autos, Hose Bridges
163		Report on Value of Property of Superior Division of the Duluth Street Railway Company as of January 1, 1927, Volumes 1 & 2.
		Letters (April 1897 - July 1897)
		Schedule Department Scrapbook (Sept. 1919 - Jan 1924)
		Duluth Street Railway Stockholders and Board of Directors Meeting Minutes (1881-1896)
		Diaries (1929-1936, 1938-1939)
		Rules and Regulations for the Government of Employees of the Duluth Street Railway Company
		Operators Manual, effective January 1, 1943
		Rules of the Duluth Street Railway Company
164	1	Maps, Brochures
	2	Incline News Stories and Historical Outline
	3	Right of Way - Intersections (1929)
	4	City Plans - Extensions and Terminals
	5	Tracks and Switches
	6	Disorderly Conduct on Street Cars (1929)
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164	8	Traffic Signals (1929)
	9	Other Street Railway Companies (1929)
	10	Advertising on Back of Transfers
	11	Advertising and Publicity Agreements, etc.
	12	American Electric Railway Association
	13	Winter Frolic
	14	Patriotic Parades (April 13, 1918 and Sept. 28, 1918)
	15	New Years Service (1930)

16 Duluth Street Railway Miscellaneous Forms
17 Stationery and Letterhead Forms
18 Hours (1930)
19 Refinancing (1929)
20 Agreement with "Amalgamated" Union (1937-1938)
21 Superior Rate Case Exhibits
22 Company Mail (1929)
23 Block Signals
24 Delays, Switching Short
25 Sand and Salt
26 Clippings (1933-1934)
27 Miscellaneous Correspondence
28 Miscellaneous Correspondence
29 Miscellaneous Correspondence
30 Reports - Fares, Paving, Delays
31 Passenger Transport and Transit Journal News

Volumes outside Boxes:

Newspaper Ads, Volume 18 (May 1, 1928 - May 31, 1929)
Park Point Traction Company, Ledger (July 1913 - January 1916)
Stock Certificate Book -- Duluth Street Railway Company
Stock Certificate Book -- Lakeside Railway Company
Block Maps - Duluth
Block Maps - Superior
SO (Special Orders) vol. 15-20, Jan. 1930-Dec. 1937 cs/8/B/5
    See also: box 155 folder 3

Transit Topics see Serials File for holdings list

Incline Railway Tower and Incline Car Blueprints see Map Drawer in Room B

New #	Old #	Title
1	A201	General Drawing for Seventh Avenue Inclined Railway
2	A202	Rear Elevation of Car for Seventh Avenue Inclined Plane Car Drawing No. 1A
3	A203	Wrought Iron Car Frame for Seventh Avenue Inclined Plane
4	A231	Car with Peckham Truck, Seventh Avenue Inclined Plane, M.H. Bronsdon, Engineer, July 30, 1901

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5	A232	Arrangement for Fastening Cable to Peckham Truck, 7th Avenue W. Incline, M.H. Bronsdon, Engineer, July 25, 1901
6	B453	Alterations to Old Power House, 7th Avenue W. Incline, M.H. Bronsdon, Engineer, July 12, 1901
7	B454	General Arrangement for Lower Terminal, 7th Avenue W. Incline, M.H. Bronsdon, Engineer, July 27, 1901
8	B456	Incline Cable Carrier Sheave, Master Mechanics Department - Duluth Street Railway, February 1896
9	B457	Wooden Trestle, Top of 7th Avenue Incline, Duluth-Superior Traction Co., September 7, 1901
10	B458	Incline Line Pole, Duluth-Superior Traction Co., October 16, 1901
11	B459	Incline Cable Carrier Sheave, Duluth-Superior Traction Co., October 28, 1901
12	B460	Sliding Landing at Top of Incline, Duluth-Superior Traction Co., Nov. 4, 1901.
165		Photographs (room F)
166		"O" Photographs (room F)